NHSO
Annual Report
Fiscal Year 2022

NHSO
National Health Security Office

NHSO

Annual Report

Fiscal Year **2022**

A message from the Chair of the National Health Security Board

Anuthin Charnvirakul
Minister of Public Health
Chair of National Health Security Board

"Social protection and universal health coverage for all Thai Citizens" are crucial policies that the Thai government and the Ministry of Public Health have given special attention continuously. The implemented healthcare policies of Thailand aim to develop an efficient and a financially sustainable public health including a social security service systems providing healthcare access to all citizens of all groups especially the underprivileged and the vulnerable. The enacted policies are in accordance with the goals of the National Strategy B.E 2661-2580 (A.D. 2018-2037), the goals of national reform under the Constitution of the Kingdom of Thailand B.E. 2560 (2017) Thailand Constitution B.E. 2540 and the target goals of the United Nation's Sustainable Development Goals (SDGs) under the motto "Leave No One Behind.

The Ministry of Public Health is ready to be a key driver of the country's economy by enhancing healthy lifestyles of all Thai people and strengthening the healthcare industry aiming to achieve the goal "Healthy Population, Strong Economics, Country Security". Therefore, in 2023, the Ministry of Public Health will be driving 5 policies 1) Improving access to health services, 2) Enhancing health promotion, 3) Integrated and coverage of health care services for the elderly, 4) Health driven economic growth and 5) Health privacy of the people and for the people. Hence, Universal Health Coverage has been established to strengthen both physical and mental health problems, which is one of the focus policies for better access to health services.

I would like to express my gratitude to the National Health Security Board, the Health Service Standard and Quality Control Board, the executives, and staffs of the National Health Security Offices, including the civil society and all relevant networks both from the public and private sectors, for their support and development of the Universal Health Coverage aiming to provide health insurance for all Thai citizens to have access to necessary, standard, continuous, equal and sustainable healthcare services.

The Ministry of Public Health is ready to be a key driver of the country's economy by enhancing healthy lifestyle of all Thai people and strengthening the healthcare industry aiming to achieve the goal **"Healthy Population, Strong Economics, Country Security"**

A message from the Chair of the Health Service Standard and Quality Control Board

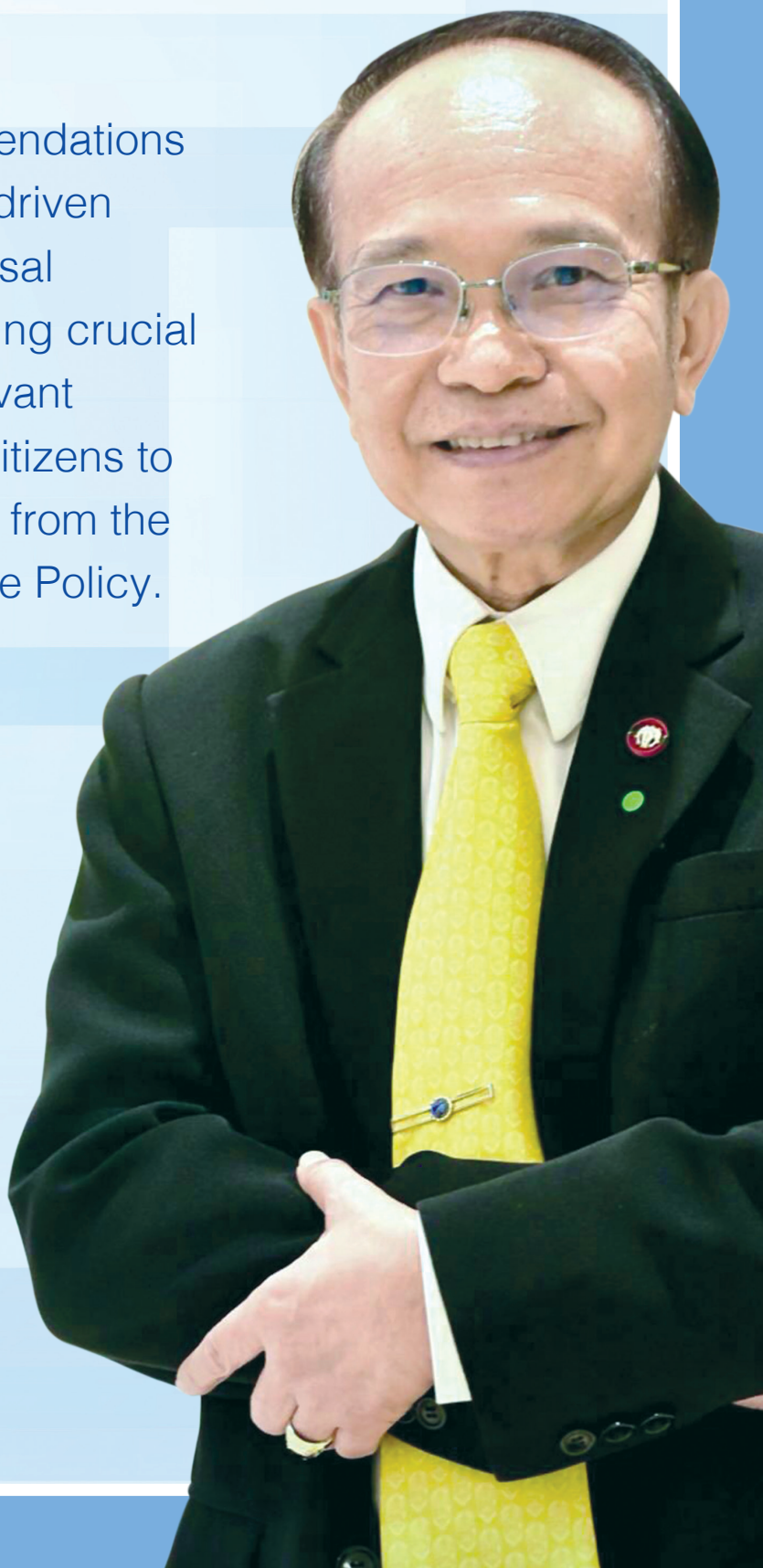
Dr. Suphan Srithamma
Chair of the Health Services Standard
and Quality Control Board

The fiscal year 2022 is the second-year term (A.D. 2021-2022) of the Health Services Standard and Quality Control Board whose duties are in accordance with Section 50 under the National Health Security Act. B.E 2545. In addition, the Board has reviewed the 4th Health Services Standard and Quality Control, and Rights Protection Action Plan A.D. 2020-2024 (Reviewed Edition A.D. 2022) and revised it in accordance with the current situation and laws related to Universal Health Coverage for continuous efficiency.

The accomplishments of HSSQB were mainly focused on evidence-based performances to increase the quality and satisfaction of services. Hence, our policies and recommendations were only a part that has driven and supported the Universal Coverage Scheme including crucial collaboration from all relevant sectors allowing all Thai citizens to enjoy the highest benefits from the Universal Health Coverage Policy.

In this regard, I would like to express my gratitude to the committees of HSSQB, the subcommittees at the central and regional levels, health networks including the civil society and finally, the National Health Security Office for their active involvement in driving the health services for Thai citizens to have access and confidence in the standard and quality of services.

Our policies and recommendations were only a part that has driven and supported the Universal Coverage Scheme including crucial collaboration from all relevant sectors allowing all Thai citizens to enjoy the highest benefits from the Universal Health Coverage Policy.



A message from the Secretary-General of the National Health Security Office

Dr. Jadej Thammatacharee
Secretary-General, National Health Security Office

From the date of sowing a seed in the ground until the plant has spread its branches and shades, the accomplishment of "Universal Coverage Scheme" has cared for the health of 48 million Thai citizens, today.

Throughout the 2 decades as a co-driver of "the National Health Security Fund", or the formerly called "30 Baht Golden Card", we have seen continuous progress.

At its initial introduction, because of the tax-financed scheme that provides free health care at the point of service, UCS was incredulous for providing standard and quality services as social welfare for the poor compounded by the many resistances and oppositions to the development of this system. Therefore, the nascent decade was a big challenge for NHSO that was established under the National Health Security Act. B.E. 2545. The office did eventually not only built confidence for all professional providers, beneficiaries, and relevance networks especially the Thai government who launched this policy and allocated the budget, but also expanded benefit packages to cover all health problems including high-cost diseases causing households impoverishment.

Simultaneously, during the nascent decade, the UCS had also encountered resistance since this would the largest allocation of budget for providing sufficient health services to all Thai citizens including per capita allocation of budget to all service units; this movement apart from being a monumental change has led to certain hospitals facing insufficient budgets. However, with effective and efficient management of NHSO, not only has the office unraveled these problems but also achieved many service coverages such as HIV/AIDS, CRF, cancer, organ transplantation etc. within the first 10 years.

The second decade was the prime time when the office has driven to increase access to services since accessibility was still a significant issue even though NHSO achieved development and expansion of many necessary benefit packages. During this period, NHSO focused on access to care including care for the vulnerable groups such as ethnic group, priest, the prisoner, and undocumented persons. In addition, to solve the problem of access to the service unit, the Golden Card was upgraded.

The crisis of Covid-19 pandemic in this decade have concreted the existence of Universal Health Coverage in Thailand and the transition of health services system to "New Normal". Several new medical services were introduced including new benefit packages such as One Day Surgery: ODS, Telemedicine, Postal medicine delivery, Patients receive drug from neighboring pharmacies, Mobile laboratory testing outside services units, Homeward; these new normal treatments have led to a new direction of the health service system.

Hence, moving forward to the third decade, the NHSO will increase efficient management of the National Health Security Fund according to the National Health Security Action Plan phase 5 (B.E. 2566-2570) with the vision of “Every Thai citizen in the Kingdom of Thailand is assured of access to quality of care”, and in accordance with the current technology and new normal era. This will fit in with service units and the needs of beneficiaries at present and in the future. In addition, NHSO will focus on enhancing disease prevention and health promotion. In the end, we hope that it will reduce morbidity and mortality and decrease health budget.

Furthermore, to keep abreast of the digital technology era, the NHSO will apply digital technology for efficient system management such as authentication, reimbursement with new E-Claim, and budget monitoring and evaluation. NHSO Call 1330 Contact Center and online services to help increase accessible communication channels for service users.

The core intention of is the NHSO not only optimizing budget management, but also paying attention to all partners’ participation according to the goal of the National Health Security Act B.E. 2545 which aims at “All Thai citizens are the owner of the Universal Coverage Scheme.

Acronyms and Abbreviations

2FA	Two-Factor Authentication
A.D.	Anno Domini
AdjRW	Adjusted Relative Weight
ADL	Activities with Daily Living
AI	Artificial Intelligence
ALL	Acute Lymphoblastic Leukemia
ANC	Antenatal Care
API	Application Program Interface
ART	Antiretroviral Therapy
ARV	Antiretroviral Drug
ASSA	ASEAN Social Security Association
ATK	Antigen Test Kit
BCP	Business Continuity Plan
BE	Buddhist Era
BIA	Benefit Incidence Analysis
BKM	Budget & KPI Management System
BRCA	Breast cancer susceptibility
CAPD	Continuous Ambulatory Peritoneal Dialysis
CD4	Cluster of Differentiation 4
CI	Community Isolation
CIRP	Cyber Incident Response Plan
CKD	Chronic Kidney Disease
CL	Compulsory Licensing
CMI	Case Mix Index
CMI-Adj.RW	Case Mix Index Adjusted Relative Weight
COPD	Chronic Obstructive Pulmonary Disease
COVID-19	Coronavirus Disease 2019
CPI	Customer Price Index
CRF	Chronic Renal Failure
CRM	Customer Relation Management
CSMBS	Civil Servant Medical Benefit Scheme
CUP	Contracting Unit for Primary Care
CXR	Chest X-Ray
DGA	Government Development Agency (Public Organization)
DIGI	Data Innovation & Governance Institute
DLP	Data Loss Prevention
DNA	Deoxyribonucleic Acid
DRG	Diagnosis Related Group
DTP	Diphtheria-Tetanus-Pertussis Vaccine
DTP-HB-Hib	Diphtheria-Tetanus-Pertussis-Hepatitis B-Hemophilus influenzae type B
EC	Effective coverage
ECMO	Added Extracorporeal Membrane Oxygenator
EEF	the Equitable Education Fund
EGAT	Electricity Generating Authority of Thailand
EIS	Executive Information System
EIU	The Economist Intelligence Unit
ER	Emergency Room
EVA	Electric Vacuum Aspiration
FDA	Food and Drug Administration
FIA	Financial Incidence Analysis
FIA	Fluorescent Immunoassay
FSW	Female Sex Worker
FY	Fiscal Year
GBDi	the Government Big Data Institute
GDP	Gross Domestic Product
GGE	General Government Expenditure
GGHE	General Government Health Expenditure
GHI index	Global Health Security Index
GHO	Global Health Observatory
HA	Hospital Accreditation
HAI	Healthcare Accreditation Institute (HAI) Thailand (Public

	Organization).
HALE	Health-Adjusted Life Expectancy
HbA1c	hemoglobin A1C
HBPM	High Blood Pressure Measurement
HBsAg	Hepatitis B surface Antigen
HC DAA	Hepatitis C Direct Acting Antiviral
HD	Hemodialysis
HFS	Health Security Fund
HI	Home Isolation
HIA	Health Technology Assessment
HI-CI	Home isolation-Community isolation
HIV/AIDS	Human immunodeficiency virus/ acquired immunodeficiency syndrome
HL	Hodgkin's lymphoma
HLA	Human Leukocyte Antigen
HPV vaccine	Human Papillomavirus vaccine
HSCT	Hematopoietic Stem Cell Transplantation
HSQCB	Health Service Standard and Quality Control Board
ICD-10	International Classification of Diseases and Related Health Problem 10th Revision
IHPP	International Health Policy Program
IHR	International Health Regulation
IHRI	Institute of HIV Research and Innovation
IMC	Intermediate Care
IP	Inpatient
ITA	Integrity & Transparency Assessment
IUD	Intrauterine Device
IVIG	Intravenous immune globulin
KPI	Key Performance Indicator
KT	Kidney Transplantation
KTI	Kidney Transplantation Immunosuppressive
LGO	Local Government Organization
LHSF	Local Health Security Fund
LOS	Length of Stay
LTC	Long Term Care
MIS	Management Information System
MIS	Minimal Invasive Surgery
MIS-C)	Multisystem Inflammatory Syndrome in Children
MOOC	Massive Open Online Course
MoPH	Ministry of Public Health
mRNA	Messenger Ribonucleic Acid
mRNA	Messenger Ribonucleic Acid
MSM	Men who have sex with Men
MSW	Male Sex Worker
MVA	Manual Vacuum Aspiration
NAMc	the National AIDS Management Center
NAP	National AIDS Program
NHSF	National Health Security Fund
NBRC	the National Beneficiary Registration Center
NCH	National Clearing House
NCSA	the National Cyber Security Agency
NGO	Non-Governmental Organization
NHSB	the National Health Security Board
NHSO	the National Health Security Office
NIST	National Institute of Standards and Technology
NLEM	The National List of Essential Medicine
NPP	National Priority Program
NSCLC	Non-small cell lungs cancer
NTI	Nuclear Threat Initiative
ODS	One Day Surgery
OECD	Organization for Economic Cooperation and Development
OOP	Out of Pocket
OP	Outpatient
OP anywhere	Outpatient anywhere
OPEC	Office of the Private Education Commission
oPEP	Occupational Post-Exposure Prophylaxis
OPSI	OPD Self Isolation, Outpatient

	Self Isolation
P&P	Prevention & Promotion
PAEC	Public Sector Audit Evaluation Committee
PAM	Privileged Access Management
PCC	Primary Care Cluster
PCI	Percutaneous Coronary Intervention
PDPA	Personal Data Protection Act
PDx	Principal Diagnosis
PEP	Postexposure Prophylaxis\
PET/CT	Positron emission tomography/ Computed Tomography
PLHIV	People Living with HIV
PPE	Personal Protective Equipment
PrEP	Pre-Exposure Prophylaxis
PWID	People Who Inject Drugs
QALY	Quality-Adjusted Life Years
QOF	Quality and outcome framework
QR Code	Quick Response Code
RMNCAH	Reproductive, Maternal, Newborn and Child Health
RRT	Renal Replacement Therapy
RRTTPR	Reach, Recruit, Test, Treatment, Prevention, Retain
RT-PCR	Real Time - Polymerase chain reaction
RW	Relative Weight
SAB	Research Center for Social and Business Development Co., L. td.
S-A-F-E	Sustainability Goal-Adequacy Goal-Fairness Goal-Efficiency Goal
SDGs	Sustainable Development Goals.
SDR	Sustainable Development report
SLA	Service - Level Agreement
SSS	Social Security Scheme
STEMI	ST-elevated Myocardial Infarction
STIs	Sexually Transmitted Infections
Systemic JIA	Systemic Juvenile Idiopathic Arthritis
TB	Tuberculosis
TG	Transgender
THCC	Thai Health Coding Center
THE	Total Health Expenditure
TMS	Tandem Mass Spectrometry
TNP+	Thai Network of People+
TU	Thammasart University
UCEP	Universal Coverage for Emergency Patients
UCS	Universal Coverage Scheme
UHC	Universal Health Coverage
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations Children's Fund.
URL	Uniform Resource Locator
VCT	Volunteer Counseling Testing
VIA	Visual Inspection with Acetic acid
VITT	Vaccine-induced thrombotic thrombocytopenia:
VL	Viral Load
VSMART	Visual Meeting Management System
WDI	World Development Indicator
WHO	World Health Organization

EXECUTIVE SUMMARY

Universal Coverage Scheme, Fiscal Year 2022 Report

The implementation of Universal Coverage Scheme for Thai citizens under the guidance of the National Health Security Office Action Plan: Phase 5 B.E. 2061 - 2565 (A.D. 2018 -2022) aims to ensure that "All Thai citizens in the Kingdom of Thailand are assured of access to quality care" as guided by 3 principles: accessible services, financial sustainability, and good governance.

In the fiscal year 2022, the National Health Security Fund was allocated 198,891.79 million baht which was equivalent to 6.42 percent of the total governmental budget comprising of two items:

(1) The budget for medical services per capita totaling to an amount of 158,294.42 million baht covering the budget for outpatient services at 1,305.7 baht per capita, inpatient services at 1,460.59 baht/capita, specialized services at 395.14 baht per capita, and other services such as medical rehabilitation, Thai traditional medicine, depreciation/investment cost, and additional quality framework services in the amount of 168.42 baht per capita. The budget for health promotion and disease prevention services was set at 463.44 baht per capita, and the budget for liability compensation was 5.95 baht per capita, excluding the Budget for medical services per capita.

(2) The budget for services in the specialized groups totaling to the total amount of 40,597.37 million baht consisting of budgets for various groups such as HIV and AIDS patients at 3,768.11 vmillion baht, renal replacement therapy for end-stage chronic kidney disease patients at 9,731.34 million baht, chronic disease patients at 1,154.78 million baht, additional budgets for risk and remote areas at 1,490.29 million baht, community-based care for people with dependency at 990.11 million baht, additional budgets for primary health care services at 319.28 million baht, COVID-19 patients service at 825.08 million baht, health promotion and disease prevention services at 19,265.42 million baht, local government organization health services at 2,769.93 million baht, and compensation budget for patients and healthcare providers at 283.03 million baht.

In addition, NHSO Administrative Budget implementation by the central and NHSO Region 13 branches accounted for 1,284.99 million baht being 0.65% of the UCS Budget.

The 2022 Fiscal Year performances were summarized as follows:

1. Financial Management

A total disbursement including obligation amounted to 130,480.54 million baht (92.84% of the UCS Budget, excluding salaries of government UCS healthcare providers at a total of 140,550.19 million baht), was disbursed to commission healthcare services; the disbursement was less than the allocated budget of 10,069.65 million baht. The National Health Security Board approved to use of the remaining budget from an income account higher (lower) than accumulated expenses for support healthcare service payments and expenses related to treating COVID-19 infections with reference to the National Communicable Disease Committee, which has designated COVID-19 as the endemic disease starting from July 1st, 2022.

2. Population Coverage

The population under the Universal Coverage Scheme is 47.46 million people of which 47.18 million people have registered with designated healthcare units. The coverage of UCS is 99.40%. There are still 0.198 million people who have not registered for UCS and 0.085 million people who are awaiting eligibility verification.

3. Healthcare Units

Healthcare units on the UCS registry totaled 15,847 units and comprised of Primary care units (12,185), Main contractor units (1,213), General referral units (1,085), and Specialized referral units (4,633). One healthcare unit can be registered for more than one type of UC system.

4. Outputs Performance according to the budget allocated

Services in Benefit Package	The fiscal Year 2020 Outputs	The fiscal Year 2021 Outputs	The fiscal Year 2022		
			Targets according to the budget allocated	Outputs	Performance (% of targets)
1. Services under capitation					
1.1 Outpatient and Inpatient services					
- Outpatient services (million visits)	162.565	163.584	174.973	167.373	95.66
- Outpatient services rates (visits per person per year)	3.421	3.477	3.680	3.531	95.95
- Inpatient services (visits)	5,853,006	5,811,123	6,389,277	6,201,940	97.07
- Inpatient service rates (visits per person per year)	0.123	0.124	0.134	0.131	97.76
1.2 Special services					
- Thrombolytic therapy for STEMI patients (persons)	4,193	3,644	4,549	3,406	74.87
- Thrombolytic therapy for Stroke patients (persons)	7,010	6,808	7,072	6,871	97.16
- Cataract lens replacement surgery (visits)	120,368	93,945	120,000	122,504	102.09
- Corneal Transplantation (eyes)	490	517	591	426	72.08
- Liver Transplant and Immunosuppressive drug (persons)	375	412	403	520	129.03
- Heart Transplant and Immunosuppressive drug (persons)	125	112	117	135	115.38
- Stem-cell transplantation (persons)	86	107	110	124	112.73
- Blood transfusion and iron-chelating therapy for Transfusion Dependent Thalassemia patients (persons)	13,424	12,014	12,734	11,138	87.47
- Tuberculosis drugs for TB patients (persons)	92,400	82,008	91,158	76,423	83.84
- Active case finding for TB patients by Chest X-ray (persons)	455,657	321,477	1,394,000	1,459,490	104.70
1.3 Health promotion and disease prevention					
- Influenza vaccinations for targeted populations (cases)	3,308,860	4,995,582	4,200,000	3,936,739	93.73

Services in Benefit Package	The fiscal Year 2020 Outputs	The fiscal Year 2021 Outputs	The fiscal Year 2022		
			Targets according to the budget allocated	Outputs	Performance (% of targets)
1.4 Disability service					
- Assisted Instrument for Disables (persons)	28,166	24,842	35,088	30,003	85.51
- Rehabilitation services (visits)	3,631,175	3,097,918	3,606,358	3,029,448	84.00
1.5 Thai traditional medicine					
- Traditional Thai herbal massage (visits)	4,356,592	3,911,754	3,260,496	3,081,637	94.51
- Postpartum care (persons)	67,017	60,493	60,864	41,763	68.62
- Herbal medicines prescriptions (visits)	11,595,034	9,089,167	10,597,780	12,121,607	114.38
1.6 Medicine and medical supplies					
- Essential, high-cost medicines (persons)	49,014	51,925	60,764	60,859	100.16
- Orphan drugs/antidotes (persons)	6,966	7,308	7,426	7,534	101.45
2. Specialized Care					
2.1 Antiretroviral Therapy for HIV/AIDS patients (persons)	282,095	289,116	279,332	297,566	106.53
2.2 HIV/AIDS prevention for at-risk population (persons)	74,228	80,382	154,659	198,199	128.15
2.3 Renal Replacement Therapy: CAPD, APD, HD, KT, KTI (persons)	64,575	69,487	67,200	82,463	122.71
2.4 Secondary prevention for diabetic and hypertensive patients (million persons)	3.774	4.001	3.706	4.156	112.13
2.5 Community care according to individual care plan for chronic psychiatric patients (persons)	10,232	10,341	10,536	10,723	101.77
2.6 Long-term care according to individual care plan for dependency persons in all schemes and all age groups (persons)	165,058	186,284	165,018	201,291	121.98
2.7 Services of Primary Health Care by Primary care cluster and new normal services (visits)	760,314	2,928,676	1,729,000	1,745,633	100.96
2.8 Compensation for remote and hardship areas and Southern border provinces (healthcare units)	202	207	207	225	108.70

5. Quality and Standard of Health Services

5.1 Hospital Accreditation

Of the 1,085 general referral units, 920 units, equivalent to 84.79 percent, were certified in Hospital Accreditation: HA level, by Healthcare Accreditation Institute (HAI) Thailand (Public Organization).

5.2 Quality and Outcome Framework: QOF

The Year 2022 was the first year of setting quality and outcomes framework on Diabetes and Hypertension care. The number of screened patients were still less than the target such as HbA1c Testing in Diabetes patients was 51.66%, Diabetes control, and Hypertension control were 27.26% and 54.79% respectively, Serum creatinine Testing and Urine albumin Testing for DM and HT patients was 53.92%.

5.3 Satisfaction

The results of the Consumers and Stakeholders Satisfaction Survey revealed that 97.69% of consumers, 86.19% of providers, and 97.62% of stakeholders gave high and the highest satisfaction scores, respectively

6. Consumer Services and Right Protection

6.1 Inquiries, complaints, petitions, referrals, and proactive services

Beneficiaries and providers can make inquiries, lodge complaints, file petitions, referrals, and proactively seek services through various channels such as the NHSO 1330 Contact Center, Line application, and personal contact. There was a total of 7,326,316 inquiries made by citizens of which 3,461,031 cases (46.86%) were related to COVID-19.

6.2 Compensations

Of the 1,314 petitions from beneficiaries or patients, 1,118 persons had received 291.419 million baht for compensation. Of the 11,553 petitions from providers, 11,165 had received 122.582 million baht for compensation of which 97.31% was related to COVID-19.

6.3 Partner networks

There are 1,250 centers working for rights protection comprising of 883 health insurance service centers in healthcare units (in 77 provinces), 194 public health insurance coordination centers (in 77 provinces), 141 independent complaint receiving units from persons accused under Section 50(5) (in 74 provinces), and 32 health insurance coordination centers in Local Administrative Organizations. In addition, there are 587 public network organizations from 9 civil network groups under the National Health Security Act B.E 2545 (A.D. 2002) consisting of children and adolescents, women, the elderly, disabled or mental health patients, HIV or other chronic disease patients.

7. Stakeholder participation

A total of 7,741 nationwide Local Administrative Organizations (99.58% out of 7,774 including Bangkok and Pattaya) contributed to managing local health security funds to organizing health promotion and disease prevention activities under more than 174,643 projects. The projects covered 44.21 million people with a budget of 4,101.93 million baht. The target groups were general population with high risk factors, school-aged children and youth, working-age adults, the elderly, the disabled, patients with chronic illness, pregnant and labor, pre-school children,

8. Challenges

1) Increasing the efficient management of the National Health Security Fund by developing identity verification process for service access (Authentication), real-time payment verification, and AI Audit to verify compensation payments.
2) Model development of payment and reimbursement system for increasing accuracy, speed, and efficiency to reduce financial risks and problems in healthcare facilities.
3) Development of the desirable cost-effective and efficient health service systems for the new normal lifestyle by incorporating telemedicine or advanced digital healthcare technology aiming to increase efficiency of prevention and treatment.
4) Increase the efficiency of long-term care services with a focus on community participation in healthcare service delivery.
5) Strengthening the primary health care system and community health system especially urban primary health care, including accelerating prevention and promotion service system and diseases with difficulty of access to services, and expectations to increase public confidence in healthcare access.
6) Integrating NHSO big data with relevant agencies, and continuously developing a monitoring and evaluation system aimed at establishing evidenced-based information to support accurate public health policy decisions.
7) Improving health literacy in community population and personal health records leading to change in behaviors and attitudes of the people; ultimately, people can take care of themselves (Self-Care).
8) Integration of three public health insurance schemes; Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS), and National Health Security Scheme (UCS) aimed to create unity to attain harmonization, reduction in inequity, increase in management efficiency.

Highlight Activities
in the Year 2022

1. Every patient with end-stage renal disease was able to select appropriate type of dialysis

NHSO has provided dialysis to end-stage renal disease for more than 15 years. In the 2022 fiscal year, the NHSB had implemented a patient-centered resolution of “Patient Centered Care” to upgrade the quality and accessibility. All patients will receive appropriate information for their mutual decision making with physicians on treatment choices according to their socioeconomic status, family factors, social factors, and indirect costs. Hence, starting from February 1st. 2022, every end-stage renal patient who needs dialysis can select either peritoneal dialysis or hemodialysis that best fits his/her needs.

This policy was the consequence of field visits and listening to public opinions by Anutin Charnvirakul, Deputy Prime Minister and Minister of Public Health, as the chair of the National Health Security Board. Evidence-based information revealed that there were many end-stage renal patients who refused to receive peritoneal dialysis and asked for hemodialysis bearing additional expense in the amount of 1500 baht per visit or 168,000-252,000 baht per year. After launching this policy, it helped 5,748 end-stage renal patients and new hemodialysis patients save their own out-of-pocket expenses. This policy can prevent impoverishment or catastrophes and increase the equity of access to dialysis in the UCS.

In the fiscal year 2022, there were accumulative 82,463 end-stage renal patients (repeat counting patients that changed dialysis type in this fiscal year

but excluding deceased patients) under the responsibility of National Health Security Fund. As of September 30th, 2022, there were 64,516 patients receiving dialysis (counting only patients receiving services and did not repeat counting patients who changed dialysis type) including 40,113 hemodialysis patients. Out of the 40,113 hemodialysis patients, there were 17,169 patients under this new policy. Hence, the consequence of implementing this policy helped reduce the burden of existing patients and household expenditures at the amount of 2,884-4,327 million per year. While expenditure for renal replacement therapy increased from the fiscal year 2021 in the amount of 500.12 million baht (in the fiscal year 2022 was equivalent to 12,384.15 million baht). There were additional registered dialysis units from an initial 78 units to 762 units covering all 77 provinces.

2. Expanded Golden Card to cover entire beneficiaries.

"OP anywhere: Access to receive treatment at any primary care unit" aims to eliminate obstacles when beneficiaries need health care services and increase access to primary care services. The main principle is that every eligible Gold Card beneficiary can access to health services at the regular service unit and its networks but in case of emergencies, he/she is eligible to elicit treatment at any primary care units outside the registered service unit's network. In 2021, the pilot project was launched in Nakhon Ratchasima province in Health Region 9, and Bangkok Metropolis in Health Region 13. Starting from January 1st, 2022, this policy has been implemented for the entire country.

"IP anywhere: Inter-hospital transfer papers are not necessary for inpatient." The results of the pilot project in Nakhon Ratchasima, Region 9th, reflected direct benefits to the beneficiaries. The policy had reduced difficulties of access to rights of inpatient services and travel expenses for getting inter-hospital

transfer papers from the regular service units. The NHSB concluded to implement this policy in the entire country to facilitate beneficiaries for inpatient services when needed. They can be admitted in any service units outside regular service units across provinces and health regions without inter-hospital transfer papers. The output performances in the fiscal year 2022 revealed that out of 4.76 million inpatient visits (excluded HI-CI), there were 1.66 million inpatient visits of the eligible Gold Card beneficiaries equivalent to 34.88 percent (non-registered service units within the province =45.94%, non-registered service units outside the province but in the health region = 10.37%, and non-register service unites outside the health region =13.70%).

"Cancer anywhere: cancer patients can access treatment and medications regardless of their whereabouts." This was the outcome of the collaboration between the Ministry of Health and NHSO that had jointly reduced the steps of access to cancer treatment and medications increasing survival probability for cancer patients. More than 190 service units located in the entire county are participating in this project launched in the fiscal year 2021. The outcome performances in the fiscal year 2022 shows that there were 201,061 cancer patients with 1,316,814 visits in 176 service units, which were reimbursed totaling 3.494 million baht. Of 176 service units, there were regular service units of 14.71%, other service units located within the province at 50.81%, service units outside registered province but within health region were at 17.79% and service units outside health region at 16.69%. The results of a study by Dr. Surapol Limpawattananon revealed that the number of cancer patients having access to treatment increased including access to radiation therapy/ chemotherapy especially cancer patients with stomach cancer/esophageal cancer, colon cancer, liver cancer/bile duct cancer (cholangiocarcinoma), and lung cancer/bronchial cancer. This project also reduced waiting time for surgery in stomach cancer/ esophageal cancer and colon cancer; increased number of patients had received surgery within 4 weeks of diagnosis. In addition, the survival rate in cancer patients diagnosed within the first year had increased.

"People under the Gold Card Health Scheme will be allowed to change their service units without having to wait for 15 days."
This policy aims to facilitate the beneficiaries under the Gold Card Health Scheme to access health care services conveniently. All the eligible beneficiaries can move their health care units by themselves through many channels such as using the NHSO smartphone application, NHSO official line, or healthcare units near their homes. In the fiscal year 2022, beneficiaries changed their healthcare units 1,596.017 times; 78.81% had made the change at service units and 23.19% at NHSO official line. Of these, 23.19% got health services immediately and the majority were outpatients. (Data as of September 30th, 2022)

3. "Adult diapers or incontinence pads" for dependent/bedridden patients

Request for "Adult diapers or incontinence pads" was a benefit package which has been proposed continuously for patients' good hygiene and household expenditures reduction. In the fiscal year 2023, NHSO added adult diapers or incontinence pads into the UCS's benefits package according to NHSB's approval on May 2nd, 2022.

In addition, the National Economic and Social Development Board proposed to the cabinet for approval of a budget for the National Health Security Fund in the fiscal year 2023 because the fee service for dependent persons in a community covering all ages and all schemes will financially burden the government in the near future; hence, it is crucial for the Local Government Organization to join in budget allocation.

Supporting adult diapers or incontinence pads is regarded as nursing care for home-bound and bed-

bond patients with ADL score 0 – 6, or Care Plan, and patient with urine incontinence/fecal incontinence according to criteria or evaluated by the physician. The Department of Health, Ministry of Public Health, suggests supporting each adult living with incontinence at 3 adult diapers/person/day or 5 incontinence pads/person/day. Service units, Quality of Life Development Center for the Elderly, or Local Government Organization (LGO), had developed this project and proposed to Local Health Security Fund (LHSF) and Provincial Rehabilitation Fund; with approval, 4,997 persons had received such benefit from August 2022 to end of the 2022 fiscal year.

4. Added 10 new benefit packages to the Gold Card Fund.

In the fiscal year 2022, NHSO added 10 new benefit packages which included treatment, promotion, and prevention.

- **Prevent HIV infectious after possible exposure through post-exposure prophylaxis (PEP):** This benefit package includes drug costs and costs of laboratory test for all Thai citizens under 3 public health insurance schemes with no limits of laboratory testing. The results of many studies abroad have proved that PEP has economic value and is cost-effective than treatment.

- **Expand indicators to cover Human normal immunoglobulin, intravenous (IVIG) to patients affected with COVID-19:** This benefit package covered Multiple inflammatory syndromes in children (MIS-C) in children after COVID-19 infection, Vaccine-induced thrombotic thrombocytopenia (VITT), Myocarditis/Pericarditis after mRNA COVID-19 vaccination.

- **BRCA1/BRCA2 Genetic testing in patients with breast cancer and ovary cancer:** This benefit package aims to check and screen mutated gene BRCA1 BRCA2 in breast cancer at the early stage for effective treatment. This benefit has proven valuable for high-risk groups/ inherited gene variant in family and saves the cost of treatment.

- **Screening for inherited metabolic disorders in newborns using Tandem mass spectrometry device:** This is an effective method for early diagnosis and screening of inherited metabolic disorders and pre-symptomatic treatment to prevent severe permanent sequelae and death.

This screening increases specificity and sensitivity and consequently, saves the cost of treatment.

- **Oral cancer screening:** It is a new medical benefit introduced in the government's three healthcare schemes for Thai citizens of 40 years and above for early detection of new case for immediately treatment.

- **Dental implant surgery for Gold Card Holders with full-mouth teeth loss:** NHSO approved dental implant benefit package to all Gold Card Holders who have no teeth with implant indicators. This benefit increased quality of life for those who have no teeth, especially the elderly.

- **Screening for thalassemia in partners of pregnant women:** This program is aimed to screen for newborns with probability of disease to reduce treatment expenses as the cost of screening for Thalassemia is equivalent to 794 bath per spouse while the cost of treatment in an acute thalassemic patient is 30,000 baht/person/year.

-

- **Screening for syphilis in partners of pregnant women:** Screening and treatment of syphilis before pregnancy can save cost as the cost of screening is 130-400 baht/married couple while treatment expense is 1,500 baht. For treatment of syphilis in newborns, the total outpatient expenses and cost of living are 70,667 baht/household. Hence, expanding benefit package of screening for syphilis in pregnant women to cover their partners has helped prevent and control of the disease, reduced cost of follow up and reduced effects in the future.

- **Smoking cessation hotline service Call 1600:** This service saves capital cost in the amount of 525-10,33 Baht/smoker and increases Quality Adjusted Life Years (QALY). Smoking is the first risk factor of the premature dead. It was estimated that the cost of morbidity and premature dead reached to 85,000-158,000 baht/new smoker. Hence smoking cessation services is a strategy to reduce the chances of morbidity caused by tobacco.

- **Screening and diagnosis of hearing loss in newborn:** Hearing is one of five basic senses of human beings. It is the starting point of environmental learning, especially in infants, leading to good child development. Screening and diagnosis of hearing loss in newborns is a necessary medical service for early detection of hearing deficiency and prompt treatment.

- **Providing eyeglasses for children with visual problems:** The UCS's good visuals benefit package leads to Thai children development. In the fiscal year 2022, NHSO set the targets to offer free eye tests to first grade students nationwide. All students at kindergarten - sixth grade students, who were suspected by their teachers to have visual problems, have undergone eye exams by ophthalmologists and got free eyeglasses. All Local Administrative Organization contributed to this project with the campaign to provide this benefit package on Children's Day in 2022.

5. Added NLEM category E (2)10 items for effective treatment.

Access to medicine is very important for access to medical care. NSHO recruited lists of drugs to cover treatment according to the National List of Essential Medicine for efficiency and effectiveness. In the fiscal year 2022, NSOB approved NLEM category E (2)10 items which are necessary but at a higher cost.

The first item of NLEM category E (2) recruited was to substitute the previous drugs that are resistant to treatment/added indicators/adjusted conditions for prescription. Consequently, it saved 59.64 million baht. These drugs are list as below:

1) Posaconazole for Mucomycosis for patient unresponsive to the previous drug
2) Linezolid, a medication used to treat Enterococcus infection resistant to Vancomycin.
3) Sofosbuvir+Valpatasvir and Ribavirin used to treat Hepatitis C.
4) Octreotid acetate (sterile powder and long-acting), a medication used to treat patients with Thyrotropin secreting Pituitary Adenoma or benign tumors of the Pituitary Gland.
5) Bevacizumab injection, a medication used to treat babies born prematurely and with retinopathy.

The other 5 new NLEM category E (2) items added were:

1) Voriconazole, a medication used to treat invasive fungal infection and blood stream infection.
2) Rituximab injection used to treat Neuromyelitis Optica Spectrum Disorder, a rare condition where the immune system damages the spinal cord and the nerve of the eyes for patients not responsive to treatments/have the contraindication of Prednisolone + Azathioprine.
3) Butusubibem, a medication used to treat Tyrosinemia Type I and prescribed to patients prior to liver transplantation.
4) Cysteamine Bitartrate for treatment of Nephropathic Cystinosis.
5) Sapropteria, oral preparation, used for differential diagnosis and to treat high Phenylalanine caused by Tetrahydrobiopterin (BH4) deficiency and Phenylketonuria.

6) NHSO contributed to provide care for COVID-19 patients.

Although the outbreak of COVID-19 in the fiscal year 2022 was not severe compared to the previous year. However, its transitioning from pandemic to endemic is still resulting in large number of COVID-19 patients, consequently, issues with access to service units. The Deputy Prime Minister and Minister of Public Heath assigned NHSO to organize additional service care for COVID-19 patients as the following:

- **Distribution of ATK-self test kits to Thai people at risk of COVID-19 infection.**
  In the fiscal year 2021, NHSO distributed 8.5 million ATK self-test kits to service units across the country, where health staff would then hand them to anyone at risk of COVID-19. For continuous distribution and meet the rising demand of self-test kits amidst the surge of COVID-19, in the fiscal year 2022, NHSO encouraged service units to purchase self-test kits and claim the cost from NHSO. In this second round, many health units coordinated to distribute ATK self-test kits including drug stores, nursing clinics, rehabilitative clinics, and laboratory units.

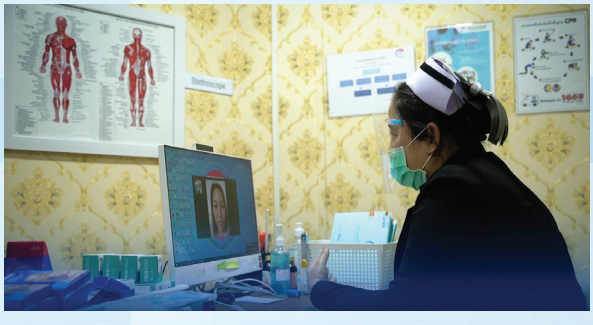
- **OP Self Isolation at Pharmacies**
  In the fiscal year 2021, the government launched the policy on caring for COVID-19 patients with

- **Telemedicine service provided to COVID-19 patients.**

  Starting on July 1st, 2022, NHSO provided additional choices of service Covid-19 patients to access health care service system at home. The services covered starting from screening, diagnosis by physicians through Video Call, sending medicine at home and follow up treatment. There were COVID-19 patients 18,000 visits. This system comprised of the following applications:

  - **Clinic application,** provided services by Clinic Health Co., Ltd.
  - **MorDee application,** provided services by True Digital Group Co., Ltd.
  - **Good Doctor Technology application,** provided services by Good Doctor Technology (Thailand) Co., Ltd.
  - **Totale Telemed,** provided services by Totale Telemed Co.,Ltd.

Home Isolation (HI) and Community Isolation (CI). However, with a decline in the severity of COVID-19, on March 1st, 2022, the government launched a new paradigm of treatment to increase convenience and rapid access to health services for high-risk group or infected group by treating as outpatients called “OP Self Isolation.” On July 1st, NSHO coordinated with The Pharmacy Council of Thailand facilitating COVID-19 patients in green group category to receive medication and follow up without going to a hospital. There were 547 drug stores that had cooperated to take care of 65,000 COVID-19 patients. This program facilitated people and reduced overcrowding in hospitals while patients were also prescribed medication faster. In the fiscal year 2023, NHSO will continue to coordinate with the Pharmacy Council of Thailand to set up new choices for the Gold Card holders with mild illness to receive treatment at pharmacies.



7. NHSO 1330 Contact Center and improving NHSO 1330 Contact center.

NHSO 1330 Contact Center provided services to COVID-19 patients in the Green Zone with “OPD Self Isolation” (OPSI), or “OP Self Isolation”, according to the guidelines of the Ministry of Public Health. When patients call NHSO 1330 Contact Center and press 14, screening for symptoms was conducted. Those who were not classified into the risk group, no symptoms or mild symptoms, would be advised to use OP Self Isolation. In addition, COVID -19 patients in the 608 group, 0–5year group, the disabled, and bedridden patients could reach a special channel by pressing 18 for prompt treatment.

Since the COVID-19 pandemic in Thailand was a part of the worldwide pandemic, NHSO 1330 Contact Center had continued its services. It provided information, counselling, complaints, petitions, referral coordination, and vising calls to follow up COVID-19 patients. To help people access services continuously, NHSO 1330 Contact Center made had called 930,494 beneficiaries to keep them abreast of their rights, benefits of health promotion and disease prevention under the UCS. In addition, 330,380 cases of Telephone Audit were conducted to inquire patients in HI-CI and OPSI programs about their treatment for consideration of reimbursement. NHSO gave prioritized all calls and set the goal of abandoning not more than 10 %. The rate of calls abandoned in the fiscal year 2022 was 7.37%.

To provide services continuously, NHSO increased manpower (the number of telephones answering staff) and accepted volunteers from public and private organization such as the army, the Thai Red Cross Society, the Ministry of Public Health (Food and Drug Administration, Department of Disease Control, Department of Psychiatry, Department of Services Support), Electricity Generating Authority of Thailand (EGAT), the Thai Bankers’ Association, TU Volunteer, and network of civil society. There were 600-700 staff/day stationed on 1,600 telephone lines. While other online services were Line, Facebook, Line Chat, Email, and Pantip Web board. Specifically, Traffy Fondue, a modern and convenient application for complaint reporting and management system implemented on July 11th, 2022.

It is thus clear that the NHSO’s development has never stopped and aiming to better respond the needs of Thai citizens, a Customer Relation

Management (CRM) was deployed. The CRM systems compile customer data across different NHSO service channels for staff to accept and respond to customers quickly. In addition, proactive services were mobilized to help the eligibles access to service, for example, in the form of telephone calls to introduce health rights according to age group, screening for cervical, diabetes mellitus, hypertension. This technology enhances staff's the standard of services and their good experiences, allowing them to handle issues even more professionally.

8. The NHSO Dashboard provided access to health data

The UCS covers nearly 48 million Thai citizens across country. Each year there are many beneficiaries accessing health services, hence, the NHSO has obtained more than 200 million outpatient records and 8 million inpatient records. This is the biggest set of Thai health data. Accessing several data sets in this system would be valuable and lead to providing necessary health care services, solving public health problems, allocating budget and resources properly, including plan for the nation's development. In addition, NHSO has set up the monitoring and evaluation system for projects under the Universal Coverage Scheme.

In the fiscal year 2022, NHSO was one of the private organizations that received "DIGI Data Award 2022" hosted by Data Innovation & Governance Institute (DIGI) on November 7th, 2022. The NHSO's gold masterpiece was Open Government Data, https://opendata.nrct.go.th/), the innovation in utilizing data for decision-making, exchanging data among organizations, and changing behavior of employees for the office to become a Data Driven Organization.

In addition, in the fiscal year 2022, NHSO recommended service units to report performance on NHSO Dashboard presenting integrated data from both internal and external to the organizations in an Infographic manner and was launched on August 8th, 2022. There were 2 target groups.

1. Dashboard for public: everyone can view healthcare services provided to people by NHSO such as health promotion and disease prevention, COVID-19, kidney diseases.
2. Dashboard for service units: health care providers can access valuable health data related to budget spending and service performances including to be used for improving health care services. The data presented included but are not limited to are reimbursement, performances in UCS, rights protection and contribution, service care for diabetes and hypertension, new normal.

Leave No One Behind, 20 years Universal Health Coverage

Universal Health Coverage is the healthcare service provided to all citizens equally by the government based on the principles of affordable essential quality health services to ensure that citizens financially protected from financial catastrophes. The Universal Coverage Scheme was implemented based on evidence-based information and with the participation of all stakeholders. Starting from the healthcare reform project "Ayutthaya Model" to "30 baht cure all diseases" project, it was first implemented in 6 provinces in 2001 and expanded to the whole country in 2002. The National Health Security Act B.E. 2545 was issued resulting in the establishment of the National Health Security Office, an administrative organization acting as representative of all Thai citizens to develop benefit packages, to protect rights, to ensure that all beneficiaries have access to quality and equitable health care services without financial burdens culminating to all Thai citizens having health insurance with the government subsidizing the budget.

Throughout the two decades of the National Health Security Office, several benefit packages and operating mechanisms were developed and as a result, beneficiaries could access health services without bankruptcy.

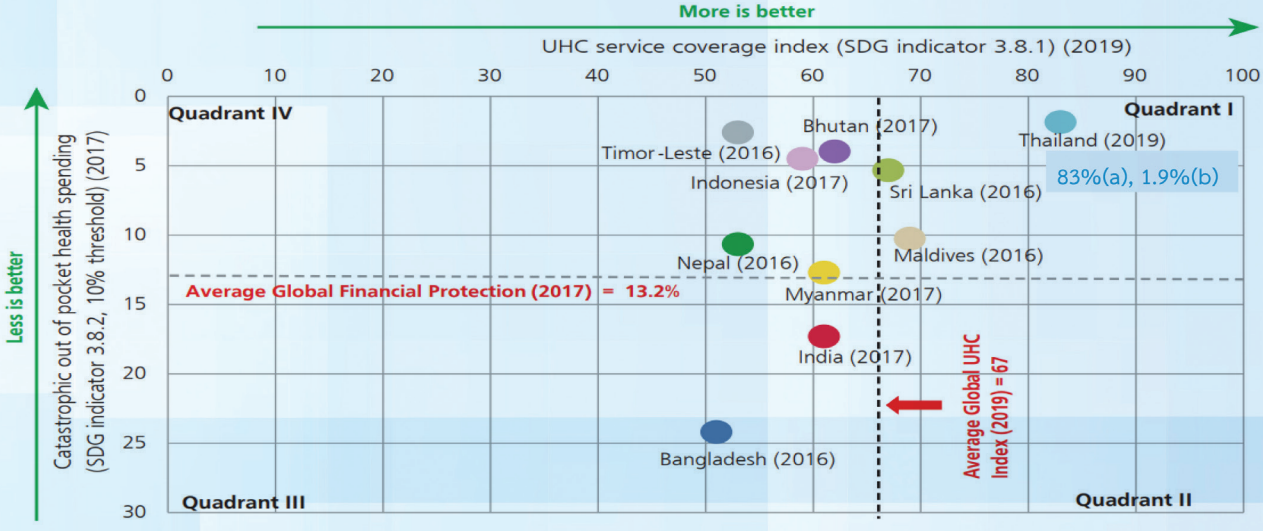
1. UCS as a part of Thailand achievement of Universal Health Coverage and Sustainable Development

The aim of the National Health Security Fund is to protect all Thai citizens with no public health insurance; currently, funding 47.46 million beneficiaries (data as of fiscal year 2022) and the coverage has been more than 99% since 2008(99.56% in fiscal year 2022) while benefit packages include health promotion, disease prevention, treatment, and rehabilitation. All of these contributed to the service coverage index in SDG No. 3.8.1, which has increased from 70% in 2010 to 83% in 2019. The rate of outpatient services in UCS beneficiaries increased from 2.45/visit/person/year in 2003 to 3.53 visit/person/year in 2022. The rate of inpatient service increased from 0.094 visit/person/year in 2003 to 0.130 visit/person/year in 2022.

At the same time, out-of-pocket payments reduced from 27.20 % of total health expenditure in 2003 to 10.48% in 2020 which is in accordance with catastrophic health expenditure index in SDG No. 3.8.2 that was reduced from 4.06 or 663,000 household in 2002 to 2.10 or 475,500 household in 2021, and health impoverishment reduced from 1.32% or 216,000 household in 2002 to 0.22 % or 49,300 household in 2021. Unmet health needs

during 2011 – 2019 was less than 3%, being a very low statistics when compared to the average of Organization for Economic Cooperation and Development (OECD) at 28%. As a result, the international organizations such as The World Health Organization, the World Bank, the United Nations, including influential people in the world, for example, Amartya Sen, the Nobel Memorial Prize Economist, praised Thailand as the model for Universal Health Coverage Movement. Many representatives in health policy and health service system from many countries has continuously come for study visits in Thailand for the past 20 years, especially to the NHSO, the administrative organization of UCS. Lao People's Democratic Republic, Cambodia, Socialist Republic of Vietnam, Morocco, Republic of Kenya, Sudan, Republic of Kazakhstan., Arab Republic of Egypt, India, Bangladesh, Indonesia, Nigeria, Pakistan.

Figure 1 Comparison of UHC service coverage index of essential health services and Catastrophic out of pocket health spending in the Member States of the WHO South-East Asia Region



Source: WHO, South-East Asia Region, Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the South-East Asia Region 2022 update

2. Achievement of health Financing Function in Thailand Healthcare System

Health Financing function includes Revenue collection/raising, Pooling, Benefits package and purchasing.

2.1 The Sustainability of the National Health Security Fund

The funding source of the National Health Security Fund is the annual government budget collected from taxation and government revenue. The NHSO received more budget allocations every year, from 1,202.40 baht/eligible or 51,407.71 million baht in the fiscal year 2002 to 2,755.60 baht/eligible or 140,609.40 million baht in the fiscal year 2012, and to 3,798.61 baht/eligible or 198,891.79 million baht in 2022 (Figure 2-6). The NHSO has continuously been allocated increased budget due to two factors:

1) **Political commitment:** Every Thai government recognizes the importance and are committed to the UHC and at present, Thailand plays an important role in driving UHC at regional level and global level through the preparation of and the support of political declaration of UHC resolutions including striving for acceptance and the annual declaration of UHC Day on 12th December.

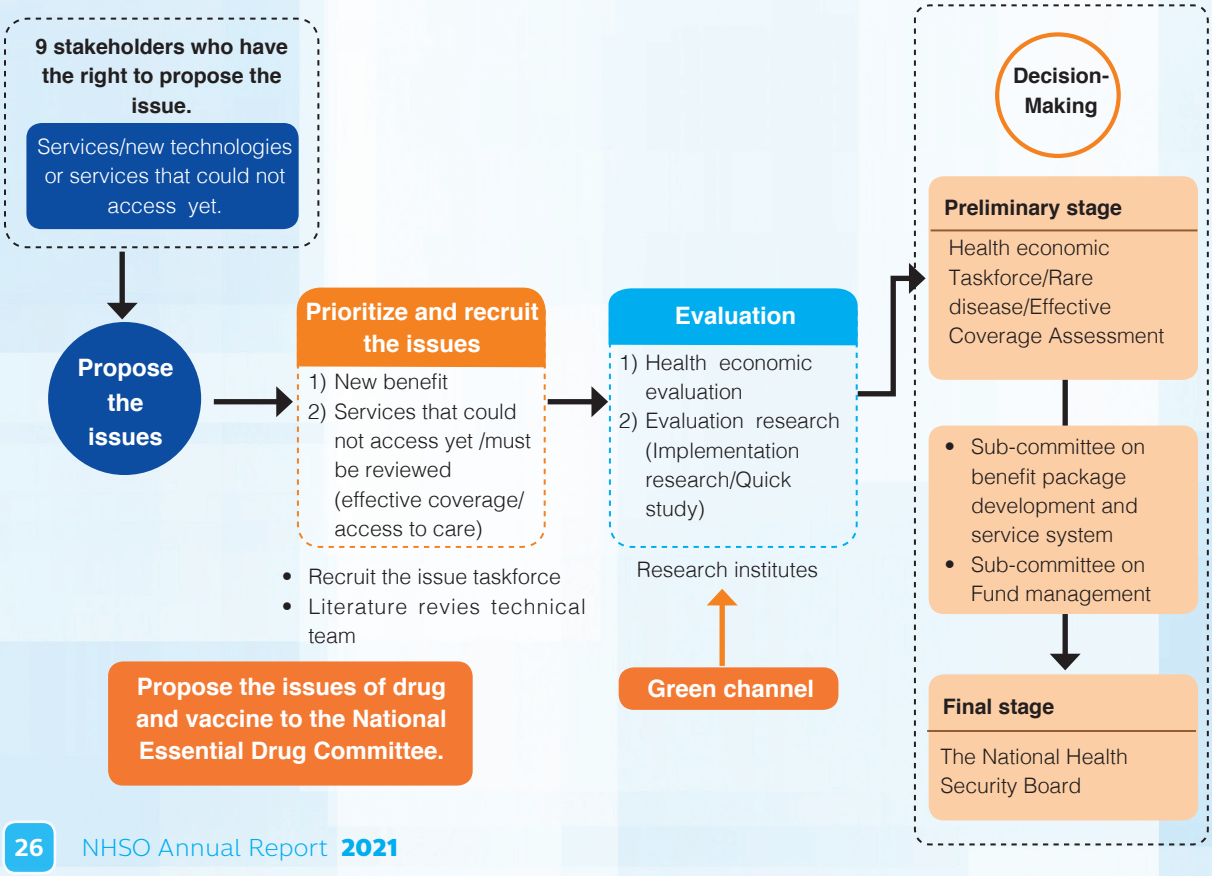
2) **Scientific budget formulation:** Each year, NHSO prepares annul budget request with scientific budget formulation and evidence-based information such as population data, cost data, access to health service data, epidemiological data.

2.2 The design of the UCS Benefit package is comprehensive, cost-effective and leaves no one behind.

At present, the rights of the NHSO covers health promotion, disease prevention, treatment, rehabilitation, and palliative care. Throughout the 20 years of its establishment, NHSO in collaboration with many stakeholders and key partners have developed many benefit packages by employing prioritization of topics, evidence-based information of Health technology Assessment (HIA), equity framework and financial risk protection decision of the committee.

The example of new health rights are numerous starting with the right for prevention and treatment of HIV/AIDS regarding which Thailand has succeeded in preventing the transmission of HIV from mother to child and has reduced the mortality rate of HIV/AIDS as patients have screening access while the benefit package covers drug and preventive equipment in high-risk groups. Even though the right of dialysis for end-stage renal disease patients was not cost beneficial but for equity and the "Leave no one behind" policy including prevention of bankruptcy or impoverishment, the NHSB had still approved it. In regards to rare diseases, even with low incidence but access to screenings and treatment have been problematic plus citizens are faced with unwanted expenses, and to keep consistent with the Leave no one behind policy, the NHSF by the NHSB announced the rights for 24 rare diseases. In addition, there is a progress of benefit package development in order to respond to rapid changes or Green channel plus the advancement of technology such as rights for outbreak of COVID-19 which includes screening, treatment, telemedicine, vaccination, and compensation for COVID-19 vaccine recipients experiencing side effects. All UCS's benefits announced each year are presented in part 2-2.

Figure 2 Development of UCS benefits package



NHSO developed a payment mechanism through numerous methods for service units such as Capitation, Case-based payment by DRG with global budget, Fee schedules, Fee for services, Quality and Outcome Framework. In addition, there are many methods of compensation to service units by pooling procurement to reduce cost, ensuring quality and increasing efficiency of budget management such as antiviral drug, erythropoietin or medical supplies, medical equipment (dialysis fluid, coronary angiography catheter and condom). This mechanism includes collaborative procurement with other relevant organizations such as the collaboration with Ramathibodi Poison Center for orphan drug and antidote management reducing the loss of medication, budget for medication reserves and increase access to medicine followed by mortality reduction.

3. Achievement of NHSO administration

3.1 Good governance with participation from all sectors

The governance mechanism of NHSF, aimed to enable individuals to access necessary, quality, and standard health services equally and widely without bankruptcy, is the core of National Health Security Board chaired by the Minister of Public Health. The board consists of all relevant sectors such as representatives from public sectors, experts in various fields, representatives from Local Government Organizations, NGOs, professional councils, and The Private Hospital Association Thailand. Hence, the board has strong responsibility for the preparation of annual budget requests, assignations of health rights, drafting criteria for payment, monitoring and evaluation according to criteria set forth with evidence-based information. While the Health Service Standard and Quality Control Board comprising of members from all relevant sectors is the governance mechanism to make sure that all beneficiaries receive standard and quality health care services, including protecting people's rights.

As well as many specific sub-committees such as the Sub-committee for Scopes and Types of Health Services are responsible for assigning health rights with cost-effectiveness, equality, and prevention from bankruptcy; Sub-committee for Health Services Standard and Quality Control which has the power and duties to prescribe rules, procedures, and conditions, and to monitor health service units to make sure that people receive quality health services. The members of the Sub-committees aforementioned are from all relevant sectors including the public sector. In addition, there is a governance mechanism in health region such as the Health Security Sub-committee for health region, the Health Service Standard and Quality Control Sub-committee for health region.

Besides the governance mechanism for administration and management of fund at central and health region, Clinical Professor Emeritus Piyasakol Sakolsatayadorn, during his position as Minister of Public Health, had appointed the National Committee on Assigning the National Health Security Fund's Budget-spending Guidelines for Service units of the Office of Permanent Secretary of the Ministry of Public Health, or the 7x7 Committee, consisting of 7 representatives from MoPH and 7 representatives from NHSO. The committee prescribed criteria and conditions for administration and management of UCS fund, especially budget allocated to service units of the Ministry of Public Health. The committee also acts as a channel for communication to propose new health rights/additional health rights. At the health region level, the Committee on Assigning the National Health Security Fund's Budget-spending Guidelines for Service units of the Office of Permanent Secretary of the Ministry of Public Health, or 5x5 Committee, was appointed. The committee is comprised of 5 representatives from MoPH and 5 representatives from NHSO both at Health Region. These mechanisms have reduced the existing past and current conflicts between MOPH and NHSO.

3.2 Creating participation in UCS development for Thai citizens

3.2.1 Public hearing

Since The main principles of NHSF is "All Thai citizens own UCS", public hearing from providers and customers is an important mechanism for participation from all relevant sectors, i.e., patients, providers, patient network, citizen sector, medical professional council, manager, and LAOs; simultaneously, the NHSO continues to develop UCS at both national and regional levels. Information from public hearing was employed for development of UCS's rights, improve working process, and other issues. The NHSO has increased channels for public hearing to collect data such as recommendation, problems, obstacles, suggestion from routine work staff and committees, sub-committees at regional level and NHSO 1330 Contact Center and website of Benefit package development project.

3.2.2. Creating participation with Local Government Organizations.

According to the National Health Security Act B.E. 2545 Sections 13(3), 18(4)(8)(9) and 47, the National Health Security Board shall have the duties to set up criteria, to support and cooperate with Local Government Organizations (LGO) for the implementing and management of the health security system at the local level according to their readiness, appropriateness and need in order to establish the national health security for the population in such area. The following Health Security Funds and programs are established from the cooperation mentioned above.

3.2.2.1 Health Security Fund at local level (HSF at local level) or Area Health Security Fund was established to support and coordinate with service units, civil organizations, and other organizations in providing health services and operated by the formation committee. This fund formation is to ensure access to equal and efficient health services for people in the area with special emphasis on health promotion, disease prevention, and treatment at primary care level in the form of proactive care. Inception in 2006, Subdistrict Administrative Organizations and municipality had cooperated and contributed budgets to establish 888 Local Health Security Funds. At present, there are 7,741 Funds (equivalent to 99.57 per cent of 7,774 Local Administrative Organizations) with more than 170,000 health projects developed each year.

Numerous projects for COVID-19 outbreak were developed and operated under Local Health Security Funds; during the fiscal year 2020-2022, there were more than 83,9000 projects with budget totaling 3,800.74 million baht.

3.2.2.2 Provincial Rehabilitative Fund. To encourage Provincial Administrative Organizations to participate in rehabilitation for citizens in their provinces efficiently and comprehensively, the NHSO in collaboration with Provincial Rehabilitation Fund had contributed budget to establish the Rehabilitative Fund at the provincial level starting from 3 Funds in 2009, there were 58 funds in 2022. The Funds provided the disabled with prosthesis according to their needs including the disabled continuously enjoying rehabilitation services at service units and mobile units resulting in increasing the disabled's quality of life.

3.2.2.3 Long term care: LTC: NHSO and LGO in collaboration with LAOs, that operates the Health Security Fund, have continuously participated in caring for dependent persons in communities. At present, this project has expanded to cover all schemes, all age groups. In the fiscal year 2022, there were 201,291 dependent persons who received care under the operation of 7,028 LGOs (90.78 % of total 7, 741 LGOs nationwide).

3.2.3 Rights protection mechanism.

Although NHSO announced necessary health rights widely, there were obstacles to access and receive health services, this has deemed rights protection mechanism as an important role for inquiries, complaints, petitions, and resolution of

issues. The NHSO has set up many channels for beneficiaries such as NHSO 1330 Contact Center, NHSO application, Line@nhso, NHSO facebook, and new channels such as Traffy Fondue, Coordination Center for Civil Health Security, NHSO Customer Service Center in the Service Facility according to Section 50(5) under the National Health Security Act B.E. 2545. During the outbreak of COVID-19, NHSO 1330 Contact Center played an additional role of co-support in ensuring COVID-19 patients' access to health services, consequently the number of telephone lines increase aiming to provide appropriate services.

To ensure access to services and preliminary aid to a patient and his/her family in the circumstance where a beneficiary is damaged by medical treatment, the NHSO has prepared a preliminary payment budget without proof according to Section 41 under the National Health Security Act B.E. 2545. It is the mechanism to reduce conflicts and prosecutions between service receivers and service providers. As per the data from 2004-2022, equivalent to 19 years, there were13,891 patients receiving preliminary aid (700 patients/year); dead or permanent disability amounted to 7,195 persons, loss of organ or disability amounted 1,906 persons, and injured or the continuously ill amounted 4,790 persons. This mechanism was also applied with COVID-19 vaccine recipients experiencing side effects. The government had assigned NHSO operators to build confidence in population for COVID-19 vaccination. There were more than 17,600 vaccine recipients, who have received aid during 2021-2022.

3.2.4 Reduce inequity by integrating 3 public health insurance schemes

Thailand has 3 public health insurance schemes: Social Security Scheme, Civil Servant Medical Benefit Scheme, and Universal Coverage Scheme. Each of the schemes has different sources of budget, assigned benefits and payment mechanisms resulting in inequity of health benefits and access to services. There was an attempt in many aspects to reduce inequality of these three funds with the NHSO as one of the core organizations driving against such disparity. In 2015, the Sub-committee on Driving Harmonization among Public Health Insurances was appointed and the sub-committees comprise of representatives from the three public health insurance schemes. The concrete performances from this sub-committee are as follows.

Universal Coverage for Emergency Patients (UCEP) is the health right under government policy with the aims to protect the entitled rights of emergency patients in Thailand in accessing safe and compulsory emergency medicine services in any hospital, both government and private hospitals, with no fees being charged until they are out of crisis and can be transferred safely. Fee schedules were assigned for three public health insurance funds.

Health promotion and disease prevention services entitled by all Thai citizens of every public health insurance to receive services equally according to the right under the Golden Card Fund. The government allocates budget to NHSO-assigned benefit packages for all Thai citizen to attain good health and reduce treatment expenses. The examples of these benefit packages are Flu vaccine for high-risk group, antenatal care, cervical cancer screening, colon cancer screening, diabetes mellitus, and hypertension.

Long term care: LTC is the right to increase the dependent individuals' quality of life. At the initial period of fund establishment starting in 2016, this program covered only the elderly under UCS. However, as there are a significant number of dependent persons outside UCS in many areas without any care, this benefit package have been expanded to cover all entitled persons under every public health insurance scheme.

During the outbreak of COVID-19, all three public health insurance Funds assigned the same benefit package for screening, diagnosis, treatment, and payment methods and rate for service units. All of these are concrete examples of reducing the gap and promote equality of health for citizens in Thailand.

Challenges at present and in the future

1. Health financing: appropriate, efficiency, acceptable and motivative

Thailand together with health care system are facing challenges that is affecting the current health funds and will continue to affect the future funding mechanism due to a variety of factors starting with the country being classified as an aged society, birth rate gradually declining, and dependency ratio increasing, the economy recessing, increasing new advanced medical technologies, and adding necessary health services. Other challenges include management of a limited health budget to get good health outcomes, prescription of benefit packages and payment methods to increase access of health services in accordance with need, standard, equity, acceptability, and trust of all relevant persons.

2. Utilization of Digital Technology in the Universal Coverage Scheme

At present, Thailand is entering a fast-growing digital era. The challenges for the National Health Security Fund are to reap the benefits from its digital transformation such as big data and artificial intelligence. Several areas utilize smart technology resulting in convenient, equitable, rapid, and comprehensive services through authentication, reimbursement, monitoring and evaluation, rights protection, NHSO 1330 Contact Center. with satisfaction from both providers and patients

Table of Contents

Introduction

Part 1
Universal Health Coverage System

Part 2
Overview Results of Universal Coverage Scheme

Part 3
The National Health Security Office Performance)

List of Figures

List of Tables

PART

1

Universal Health Coverage System

1. Concept of Universal Health Coverage

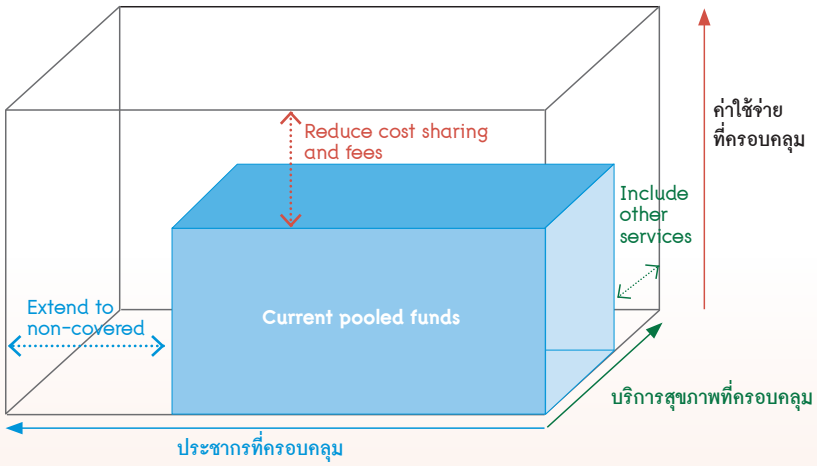
The UHC was founded based upon the principles of providing citizens with access to healthcare services without any undue financial hardships. Therefore, to accomplish this feat, the government must have in-place financial strategies to protect families' financial obligations and to bring fairness, especially to the population living at and below the poverty line including those who cannot afford expensive healthcare services.

The World Health Organization's annual report on the Path to Universal Coverage compared the UHC system to a UHC Cube's three dimensions of healthcare security:

1. **Expanding UHC for Population Coverage** by increasing coverage for citizens, who are eligible for public health insurance system.
2. **Expanding UHC Services Coverage** by increasing the frameworks and diversity of health services to fulfill the healthcare demands for the citizens.
3. **Expanding UHC for Financial Coverage** where there will be a decrease in financial obligations for citizens for healthcare services to be coherent with the main purpose of building a healthcare system that frees citizens from financial catastrophes, one of the core grounds deterring the population from eliciting healthcare services (Figure 1-1).

The framework of monitoring health service system to achieve universal health coverage was also present in Figure 1-2.

Figure 1-1 **Three dimensions to consider when moving towards universal coverage**

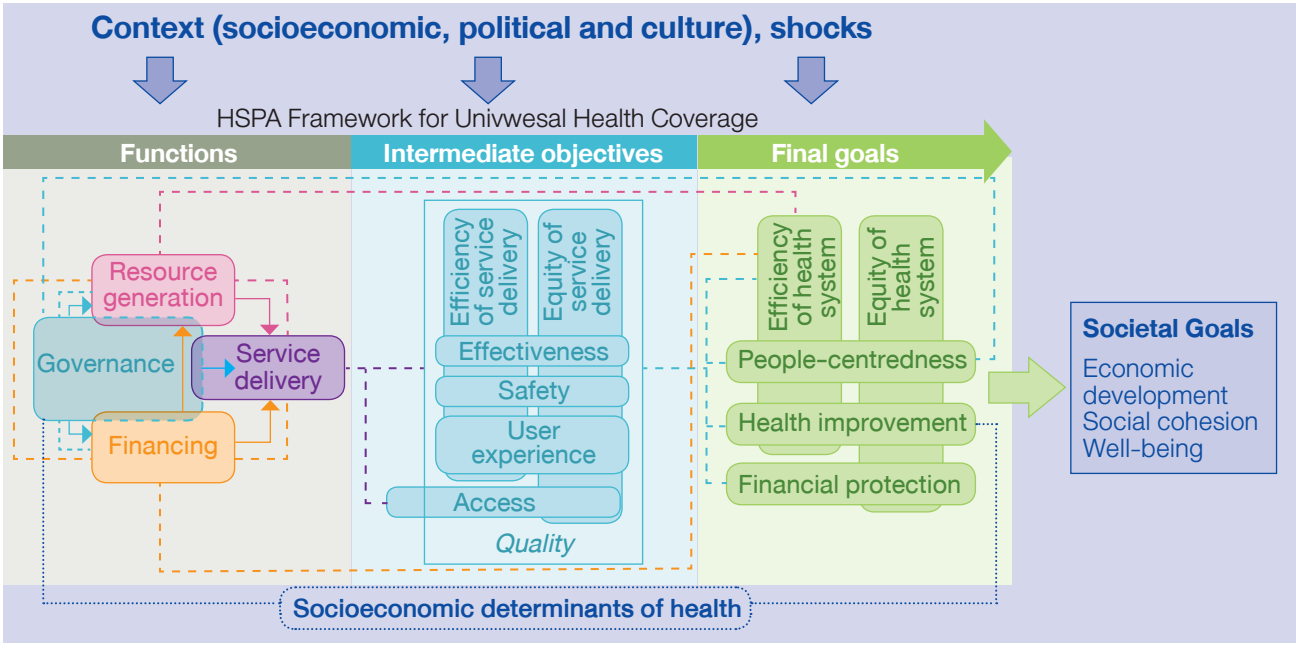


Three dimensions to consider when moving towards universal coverage

Source: *WHO. Universal coverage - three dimensions [online]. [cited 2019 Feb 7; Available from:URL: https://www.who.int/health_financing/strategy/dimensions/en/]*

Figure

1-2 **Health System Performance Assessment Framework for Universal Health Coverage**



Structural / functional links

Performance links within health system

Intersectoral performance links

Source: *Health system performance assessment: a framework for policy analysis / Irene Papanicolas, Dheepa Rajan, Marina Karanikolos, Agnes Soucat, Josep Figueras, editors (Health Policy Series, No. 57), WHO 2022, page 34-35.*

2. Sustainable Development Goals: SDG

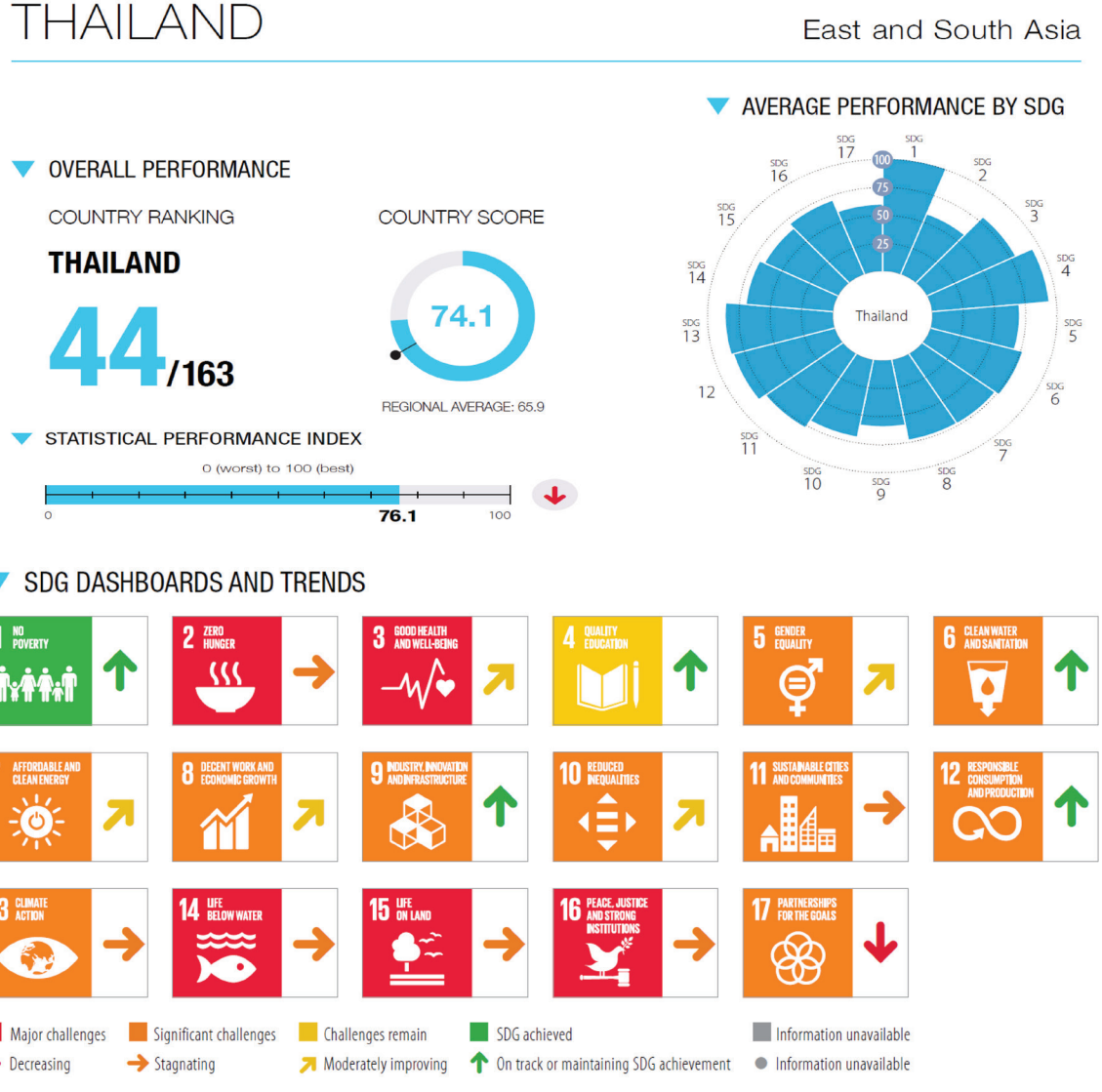
United Nations: As a consequence of the Millennium Development Goals' (MDGs) accomplishment in 2015, the United Nations had set the Sustainable Development Goals (SDGs) to be attained within 2030. The developmental goals composed of developmental guidelines on economics, society, health, education, and environment consist of 17 goals, 169 objectives, and 244 indicators for UN members to implement for their own nation's progress. Thailand, as a member, and through Gen. Prayuth Chan-o-cha, on 25th September 2015, has endorsed the SDGs. This year (2022) was 7 years after endorsement of SDGs. There was a Sustainable Development Report: SDR which present situation and ranking of SDGs for each country. This report was developed under the concept "From crisis to Sustainable Development as Roadmap to 2030 and Beyond."

"The year 2021 was the second continuous year that had no progress of SDG achievement" resulting from the outbreak of COVID-19. The consequences of COVID – 19 crisis outbreak, climate change, and Ukraine-Russia War, all of these were obstacles to sustainable development goals at global level. The average SDG Index at global level in 2021 was equivalent to 66 which a little bit decline from 2020. (Data from Sustainable Development Report 2022, From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond, Includes the SDG Index and Dashboards

From Sustainable Development Report 2022, Thailand's SDG index score rank was 44 of the total 163 countries with scoring 74.1. Thailand's rank and score had dropped from 2022 at 43rd rank of the total 165 countries and total of 74.2 score which was moving in the same direction of the world. Comparing with countries in Asia Continent, Thailand was rank 3rd after Japan (Rank 19th with scoring 79.6) and South Korea Rank 27th, scoring 77.9) but still ranking first in the South -East Asia region (average score 65.9), followed by Vietnam (ranked 55th , scoring 72.8), Singapore (ranked 60th, scoring 71.7) and Malesia (ranked 72nd , scoring 70.4). Thailand is the first among countries in ASEAN for 5 years consecutively (from 2019-2022) as present in Figure 1-3

Source: *Sustainable Development Solutions Network, Thailand, 2022. [online Available from:URL: https://www.sdgmove.com/2022/06/02/sdg-updates-sustainable-development-report-sdg-index-2022]*

Figure 1-3 **Thailand Performance of Sustainable Development Goals in the Year 2022**

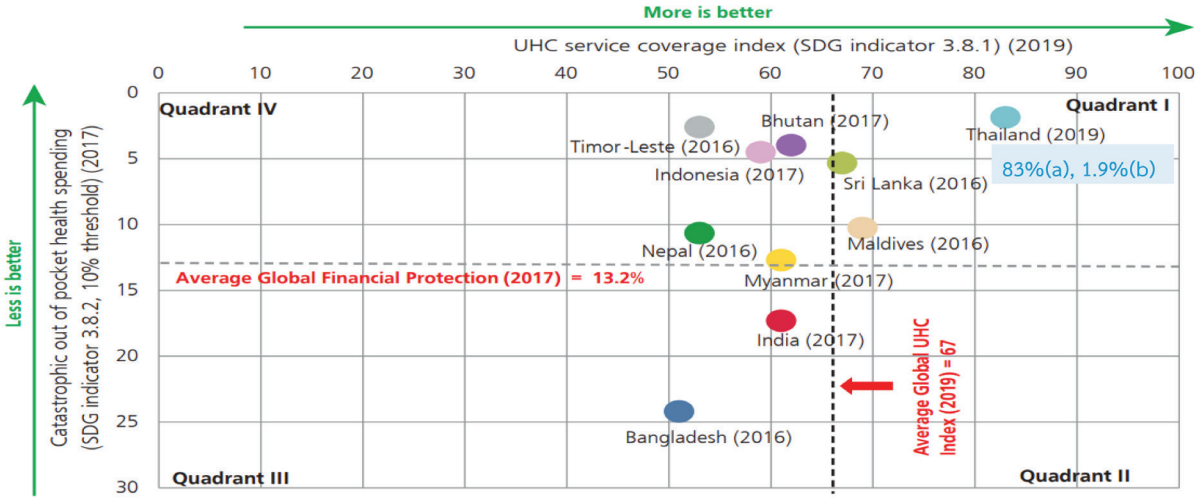


Source: Sustainable Development Report 2022, page 426-427; https://sdgindex.org/

The National Health Security Office, the entity responsible for driving the 3rd goal, promises to establish healthcare security and the well-being for all ages as specified in the Target 3.8: to achieve UHC including financial risk protection, access to standard healthcare services and access to safe, effective, quality, and affordable essential medicines and vaccinations.

The target goals of SDG 3.8 to achieve universal health coverage, including financial risk protection comprise of 2 indicators: SDG-3.8.1: UHC Service coverage index and SDG-3.8.2: Catastrophic health expenditure. In 2019, Thailand had achieved SDG-3.8.1(a) and 3.8.2(b) at 83% and 1.9 %, respectively (At global level, average SDG-38.1 (a) in 2019 and average SDG-3.8.2(b) in 2017 were 67% and 13.2% respectively) (Figure 1-4).

Figure **1-4** **Comparison of UHC service coverage index of essential health services, SDG-3.8.1(a) and Catastrophic out of pocket health spending, SDG-3.8.2(b) in the Member States of the WHO South-East Asia Region, SDG Report 2022**



Source: *Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the South-East Asia Region, 2022 update SDGs, UHC and financial protection: Leaving no one behind, page 5.*

Note: *WHO Global Health Observatory accessed 5 May 2022. Dashed lines represent global incidence for each indicator based on Global incidence of catastrophic health spending (2017) = 13.2% and UHC coverage index (2019) = 67%.*

However, when considering from the SDG-3 Good Health and Well-Being indicates, it found that Thailand must improve certain indexes continuously such as maternal mortality rate, neonatal mortality rate, incidence of tuberculosis, traffic death, life expectancy at birth, adolescent fertility rate, UHC index of service coverage (Figure 1-5).

The **National Health Security Office**, the representative entity of Thai citizens is responsible for providing standard and quality of health services to ensure all people access to services when need with equality and develop UCS based on evidence-based practice and participation from all sectors for driving Thailand to achieve the 3rd goal of SDG: Good health and well-being (SDG-3).

Figure 1-5 **Details of Thailand Performance of SDG 3: Good health and well-being in the Year 2022**

SDG3- Good Health and Well-Being	Value	Year	Rating	Trend
Maternal mortality rate (per 100,000 live births)	142	2017	●	↑
Neonatal mortality rate (per 1,000 live births)	19.6	2019	●	↗
Mortality rate, under-5 (per 1,000 live births)	44.2	2019	●	↗
Incidence of tuberculosis (per 100,000 population)	498.0	2019	●	→
New HIV infections (per 1,000 uninfected population)	0.2	2019	●	↑
Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30-70 years (%)	19.9	2016	●	↑
Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	140	2016	●	●
Traffic deaths (per 100,000 population)	11.9	2019	●	
Life expectancy at birth (years)	69.6	2019	●	→
Adolescent fertility rate (births per 1,000 females aged 15 to 19)	32.4	2018	●	↑
Births attended by skilled health personnel (%)	56.7	2016	●	●
Surviving infants who received 2 WHO-recommended vaccines (%)	83	2019	●	↑
Universal health coverage (UHC) index of service coverage (worst 0-100 best)	52	2017	●	↗
Subjective well-being (average ladder score, worst 0-10 best)	NA	NA	●	●

Source: Sustainable Development Report 2022, page 426-427; https://sdgindex.org/

3. Population coverage, Universal Health Coverage: UHC

The Ministerial Cabinet's resolution on 25th March 2015, had assigned the NHSO as the central unit to manage the National Beneficiary Registration Center (NBRC) for citizens to receive universal health coverage consisting of Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS), Universal Coverage Scheme (UCS), and other government health insurances (private enterprise, Local Administrative Organizations, public organization, and agencies governed by specific acts).

In 2022, 66.984 million Thai citizens had rights to Universal Health Coverage of which 66.562 million had enrolled for the UHC. The *UHC of Thailand was at 99.56 percent* composed of 47.180 million beneficiaries of the UCS, 12.754 million individuals had access to SSS, 5.298 million individuals with the CMBS, (the coverage for local governmental employees, private teachers, and disabled insurance) 0.729 million individuals registered for other medical benefits provided by the government and 0.729 million were individuals with undocumented status. There are still 0.198 million individuals, who had not registered to a contracted unit, 0.085 million individuals not residing in their registered residence (awaiting confirmation of coverage), and 0.011 million Thai citizens living abroad, or 0.44 percent.

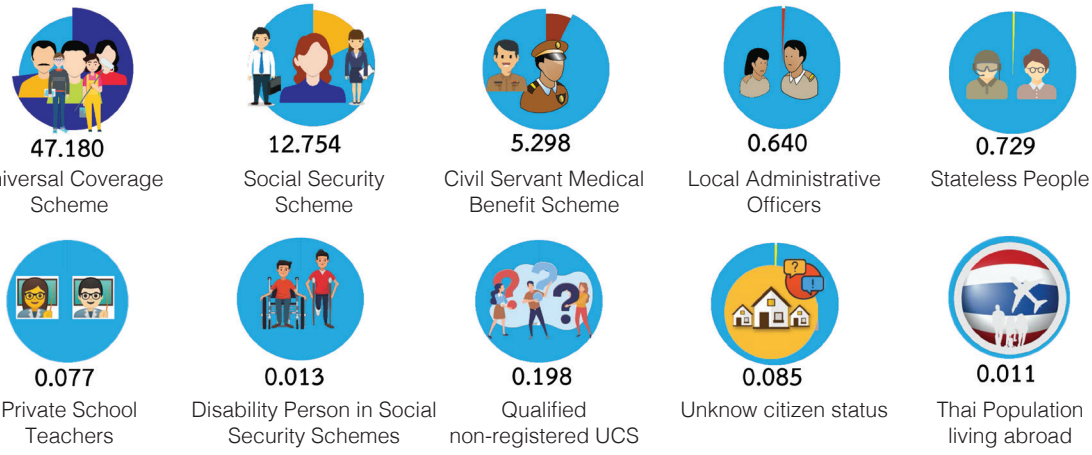
Of the 47.463 million eligible beneficiaries of the Universal Coverage Scheme (Gold Card/ UC), 47.180 million had also registered for the benefit, or calculated as a *coverage of 99.40 percent of the UC*; however, there are still 0.198 million individuals who has not registered to a contracted unit for health services and 0.085 undocumented persons or 0.60 percent compared to UCS eligible (Figure 1-6) (Tables 1-1 and 5-1 in Appendix 5).

Upon examination based on age distribution, as classified by rights, it has been found that the majority of eligible persons under the UCS were children (0-19 years old) and the elderly (60 years and above), while those eligible under the SSS were working-age (25-49 years), and the eligible under CSMBS was distributed amongst all age groups, particularly, in the 40 years and over (Figure 1-7).

Figure

1-6 **Number of Thai Population classified by Health security schemes in the Fiscal Year 2022**

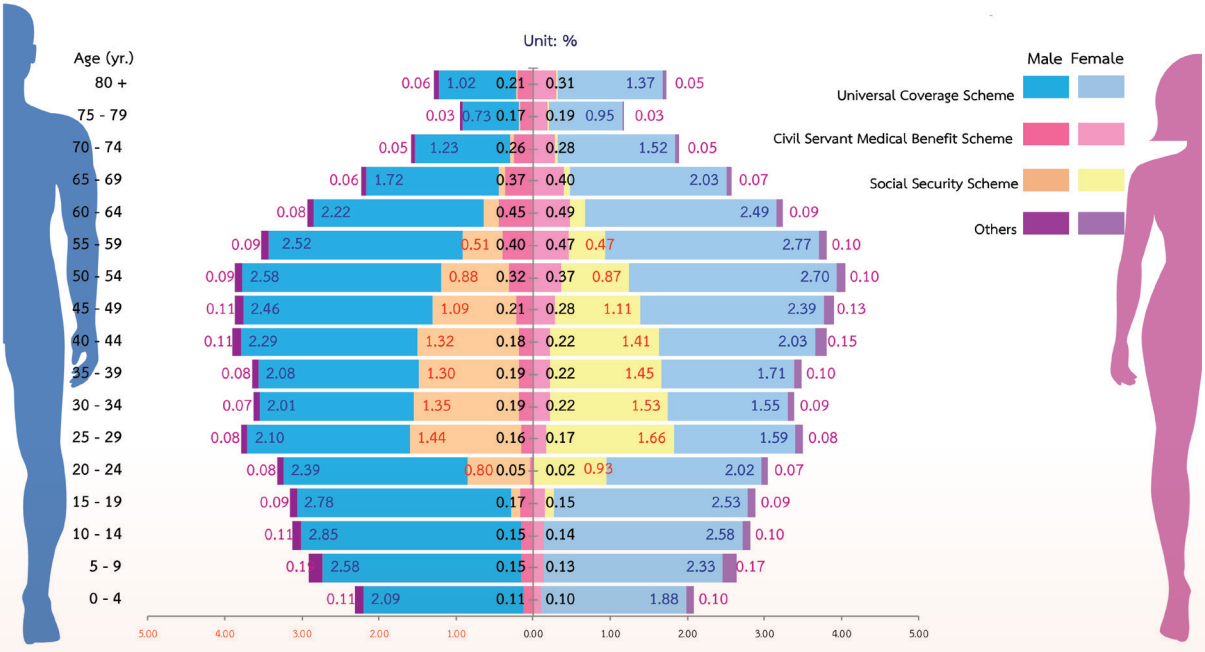
Thai population under Universal Health Coverage Policy in FY 2022, 66.984 million persons



Source: *Department of Registration, Fund Management Unit, NHSO, Data as of September 30th, 2022*

Figure

1-7 **Proportion of Thai Population classified by gender, age group, and health security schemes in the Fiscal Year 2022**



Source: *Department of Registration, Fund Management Unit, NHSO, Data as of September 30th, 2022.*

Table **1-1** **Number of Thai population in all Health security schemes in the Fiscal Year 2018-2022.**

Unit: persons

Health security schemes	2018	2019	2020	2021	2022
1. Universal Coverage Scheme: UCS	47,802,669	47,522,681	47,604,743	47,555,113	47,179,787
2. Social Security Scheme: SSS	12,237,637	12,584,458	12,551,583	12,464,007	12,754,427
3. Civil Servant Medical Benefit Scheme: SMBS	5,053,330	5,149,480	5,194,664	5,273,511	5,297,740
4. Local Administrative Officers: LAOs	625,316	625,823	638,563	630,414	639,557
5. Stateless People: STP	377,713	521,835	540,471	538,508	729,019
6. Private School Teachers: PVT	90,598	86,965	79,167	86,861	76,528
7. Disability Person in Social Security Schemes: DIS	18,533	16,667	15,681	13,923	12,919
8. Qualified non-registered UCS	39,351	55,922	72,459	187,816	197,902
9. Unknown citizen status	107,442	100,803	95,254	90,584	85,034
10. Thai Population living abroad: FRG	14,045	13,211	12,614	11,841	11,070
11. Foreigners: NRD	411,528	370,387	384,165	401,352	321,041
12. Foreigners with Insurance: NRH	80	80	80	80	80
13. Total Population	66,778,242	67,048,312	67,189,444	67,254,010	67,305,104
14. UHC Population: 1+2+3+4+5+6+7+8+9+10 [1]	66,245,228	66,563,831	66,805,199[1]	66,852,578[1]	66,983,983[1]
15. Registered UHC Population: 1+2+3+4+5+6+7	66,205,796	66,507,909	66,624,872	66,562,337	66,689,977[2]
16. UCS Population: 1+8+9 [2]	47,842,020	47,578,603	47,677,202	47,742,929	47,462,7232
17. Universal Health Coverage (15/14*100)	99.94	99.92	99.73	99.57	99.56
18. Universal Coverage Scheme (1/16*100)	99.92	99.88	99.85	99.61	99.40

Source: *Department of Registration, Fund Management Unit, NHSO, Data as of September 30th, 2022*

Notes: 1. *In FY 2020, the calculation of Percentage of Universal Coverage Scheme coverage was changed from the previous year.*

Previous formula:

Percentage of UHC = number (no.) of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals x 100

no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals – non-registered individuals

Revised formula:

UHC = no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals x 100

no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals – non-registered individuals + no. of individuals without household registrations + number of Thai citizens living abroad

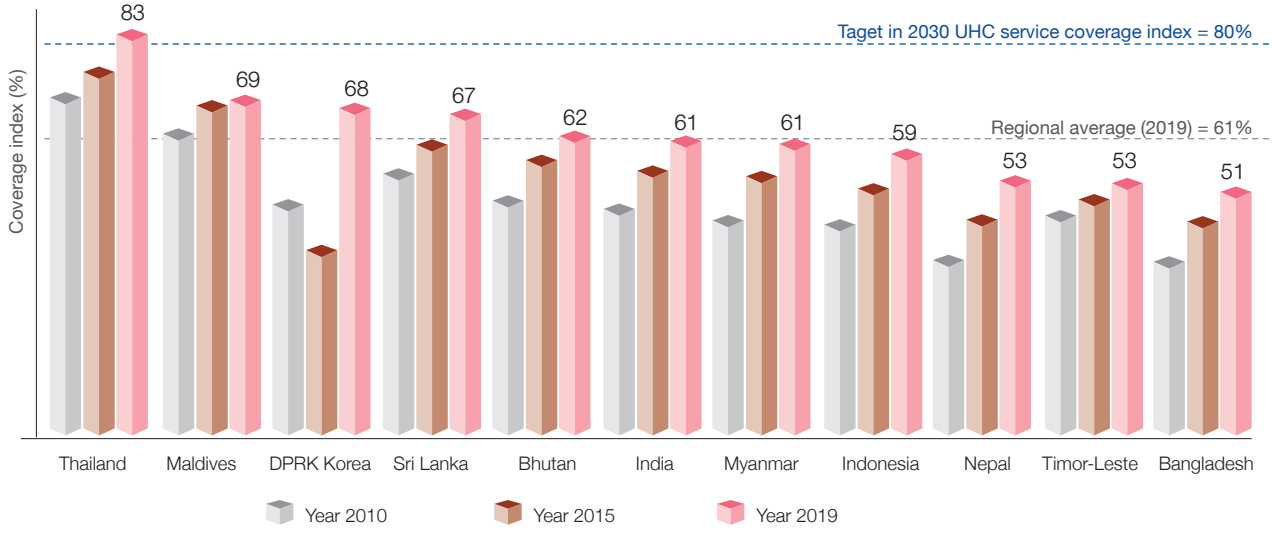
2 . Percentage of UCS = no. of individuals eligible under UCS x100

no. of individuals eligible under UCS+ no. of unregistered individuals

4. Health Service coverage, Coverage of essential health services: SDG 3.8.1)

According to the Sustainable Development Goals (SDGs), the achievement of UHC Service Coverage index for SDG 3.8.1 within the year 2030 is 80%. In 2019, Thailand was ranked the first among countries in Southeast Asia Region at 83% which higher than the target goal, while average number of countries in Southeast Asia Region reached at 61% and need more attention to achieve the target goal at 80% within 2030 (Figure 1-8).

Figure 1-8 **Trend in coverage of essential health services in Member States of the South-East Asia Region, 2010 – 2019**

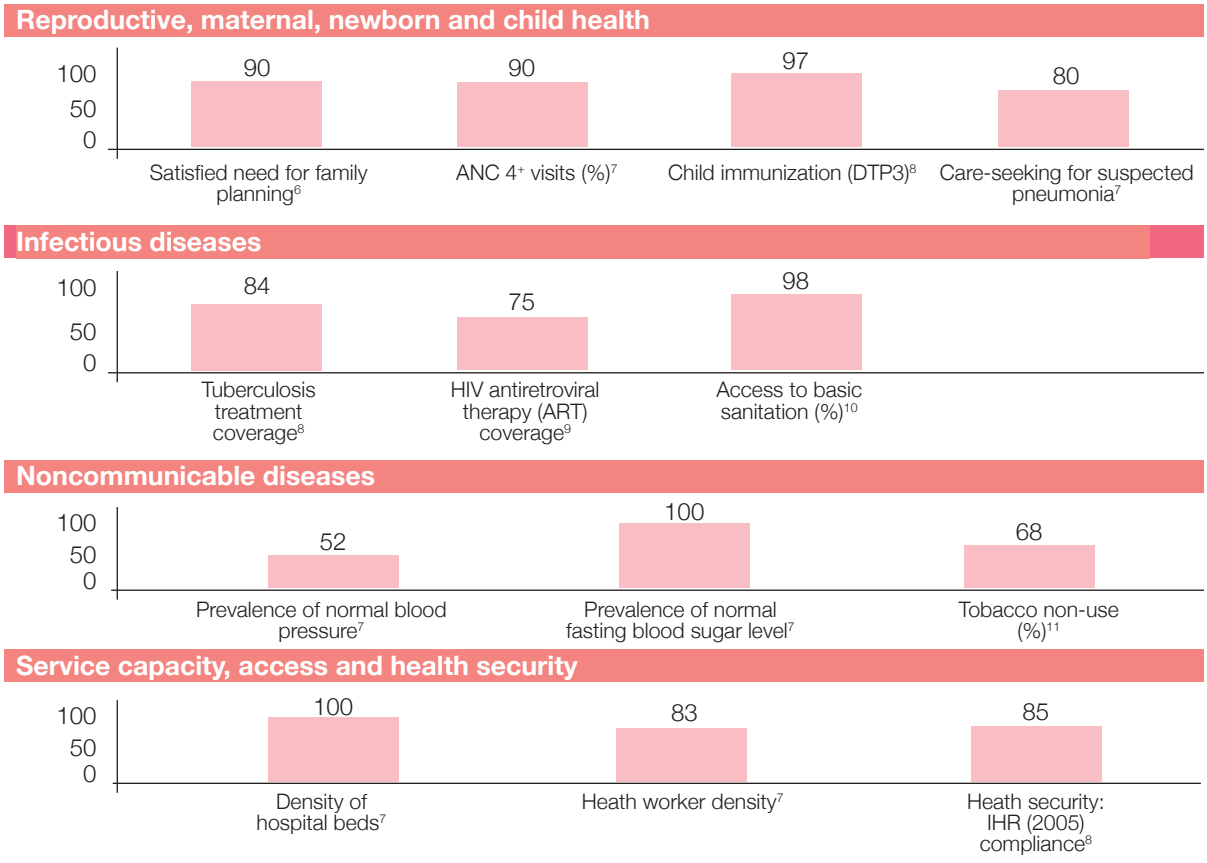


Source: Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the South-East Asia Region, 2022 update SDGs, UHC and Financial protection: Leaving no one behind, page 3.

Coverage of essential health services is composted of 4 health services 1) Reproductive health covered maternal, newborn and child health healthcare, 2) Infectious diseases service included tuberculosis and HIV, 3) non-communicable or chronic diseases services included hypertension and diabetes and 4) Service capacity and access, among the general and the most disadvantaged population.

Figure

1-9 **Summary measure of Thailand performance of SDG 3.8.1: Essential Health Service coverage in the Year 2022**



Source: *Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the South-East Asia Region, 2022 update, pages 85-88*

Note

6. *United Nations, Department of Economic and Social Affairs, Population Division. Estimates and Projections of Family Planning Indicators, 2021 revision. (https://population.un.org/dataportal/data/indicators/8/locations/50,64,408,356,360, 462,104,524,144,764,626/start/2000/end/2022/table/pivotbylocation, accessed 12 May 2022). Reference year 2019.*
7. *Tracking Universal Health Coverage: 2021 Global monitoring report (Conference edition). World Health Organization and World Bank. 2021 (https://www.who.int/publications/i/item/9789240040618, accessed 12 May 2022).*
8. *Global Health Observatory (GHO) data. Geneva: World Health Organization (https://www.who.int/data/gho/data/indicators, accessed 27 April 2022). See for Malaria incidence rate calculated for confirmed cases: 2015=0.7, 2016=1.4, 2017=1.4, 2018=0.54, 2019=0.41, 2020=0.29; data source: World malaria report.*
9. *AIDSinfo [online database]. Geneva: Joint United Nations Programme on HIV/AIDS (UNAIDS) (http://aidsinfo.unaids.org/, accessed 29 March 2022).*
10. *WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) estimates, 2021 revision (https://washdata.org/data/household#!/, accessed 12 May 2022).*
11. *WHO global report on trends in prevalence of tobacco use 2000-2025, fourth edition. Geneva: World Health Organization; 2021 (https://www.who.int/publications/i/item/9789240039322, accessed 12 May 2022).*

5. Financial coverage, financial health protection: SDG 3.8.2

Thailand has a Universal Health Coverage that has protected all Thai citizens since 2002, thereby, there are very few unmet health needs putting Thailand on par with OECD countries, which are high-income countries. Nevertheless, one critical question is how will the governmental shoulder the financial responsibilities to attain health sustainability consistently and to the adequacy of health expenditures. This inquiry is to ascertain that all citizens have access to health services, medicine, and necessary technologies including preventing households from bankruptcy or impoverishment because of healthcare expenditures.

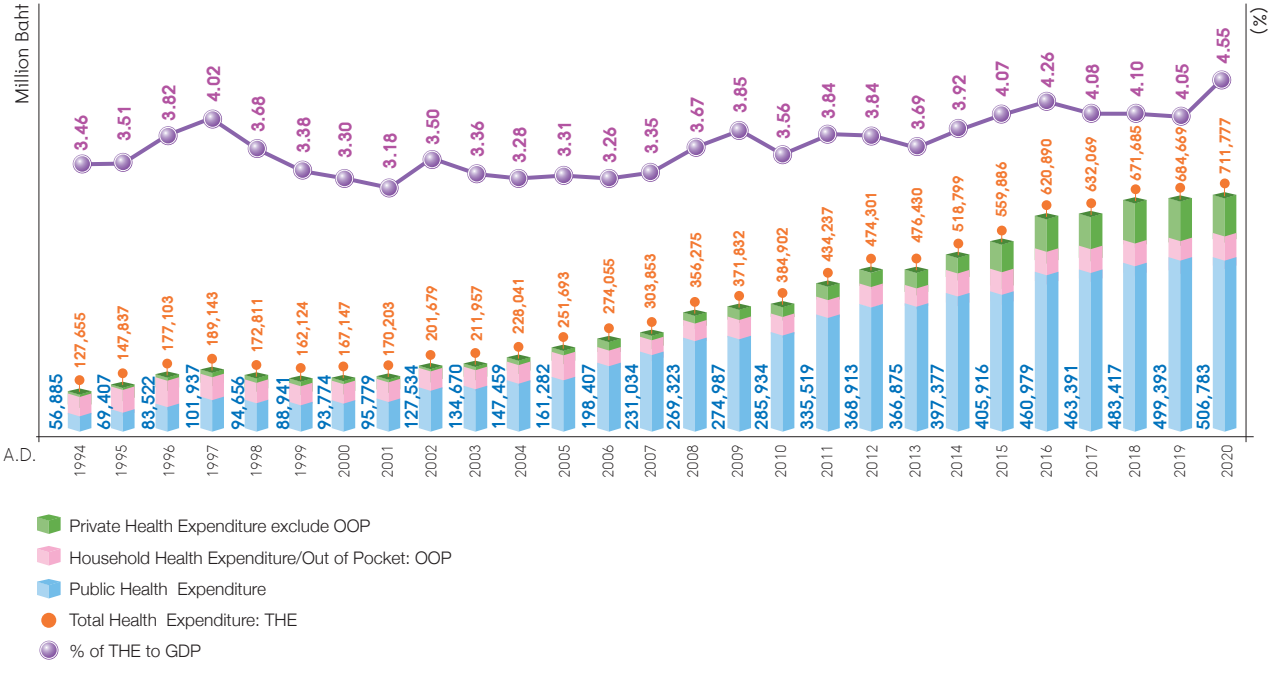
Financial protection of household catastrophe due to health expenditure is a goal of Universal Health Coverage which assigned to SDG3.8.2, Sub-goal of SDG 3.8 Achieve universal health coverage under SDG 3 Ensure healthy lives and promote well-being for all at all ages of the United Nations' Sustainable Development Goals. The National Universal Coverage System (The Gold Card System), a part of the Universal Health Coverage System (which was composed of Civil Servant Medical Benefit Scheme, Social Security Scheme, and Universal Coverage Scheme), driving by the National Health Security Board and the National Health Security Office to achieve access necessary services, standard and quality services, satisfaction, and others, including protection household from burden of health expenditure. Therefore, to achieve the goal of UHC, financial risk protection is monitor

Equity is one of the targets for social protection strategy under the national strategy, and the target of health. There are several dimensions and challenges of health equity/health security measurement due to numerous factors such as economic factors, social factors, and individual factors. Health equity measurement is new for Thailand. In the Fifth National Health Security Action Plan B.E 2566-2570, NHSO set up new challenge indicators (Figure 1-14) instead of the old ones (Figure 1-13). Expecting the decline of financial crisis from burden of health expenditure of the poorest (Quintile 1) compared with financial crisis of household in every economic status may be used as a proxy for equity. Hence, assignment of this goal, is also new and challenge for health equity measurement in Thailand and it depends on various factors as well. Details are presented as follows.

(1) Total Health Expenditure (THE) per Gross Domestic Product (GDP) must be no less than 4.6% but no more than 5%. In 2020, it has been found that household expenditure has increase but both the public and private health sector had gradually increase. Total health expenditure compared to gross domestic products was 1.55% lower than the target goal a little bit. (Figure 1-6).

Figure

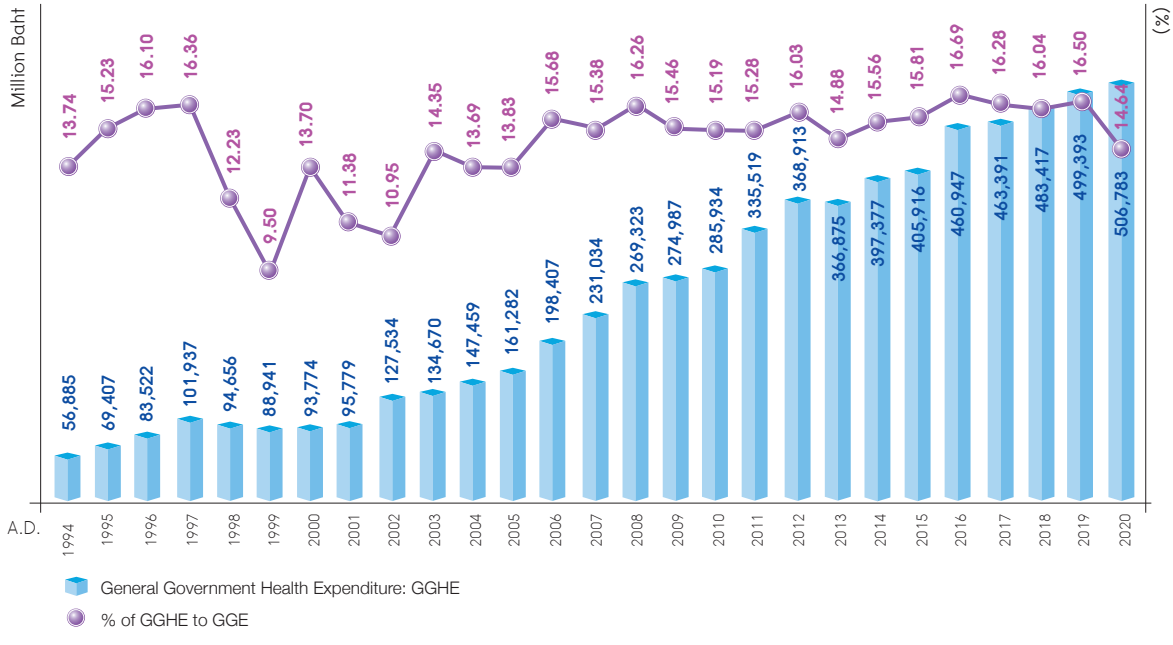
1-10 **Number and percentage of Total Health Expenditure (THE) to Gross Domestic Product (GDP) in the Year 1994-2020**



Source: *National Health Account, 2020, International Health Policy Program: IHPP, MOPH*
Notes: *GDP from World Development Indicators (WDI), World Bank, as of December 20th, 2022*
Source: *https://data.worldbank.org/country/thailand. In 2020, GDP value was 15,636,891 million baht, reducing 7.43% compared to 16,892,411 million baht in the year 2019.*

(2) General Government Health Expenditure (GGHE) per General Government Expenditure (GGE) must be no less than 17 % but no more than 20%. In the fiscal year 2020, it declined to 14.64% with government health expenditure increased only 1.34% while total government expenditure increased from the year 2019 at 14.34%. (Figure 1-11)

Figure **1-11** **Number and percentage of General Government Health Expenditure (GGHE) per General Government Expenditure (GGE) in the Year 1994-2020**



Notes: *GGE from World Development Indicators (WDI), World Bank, as of December 20th, 2022*

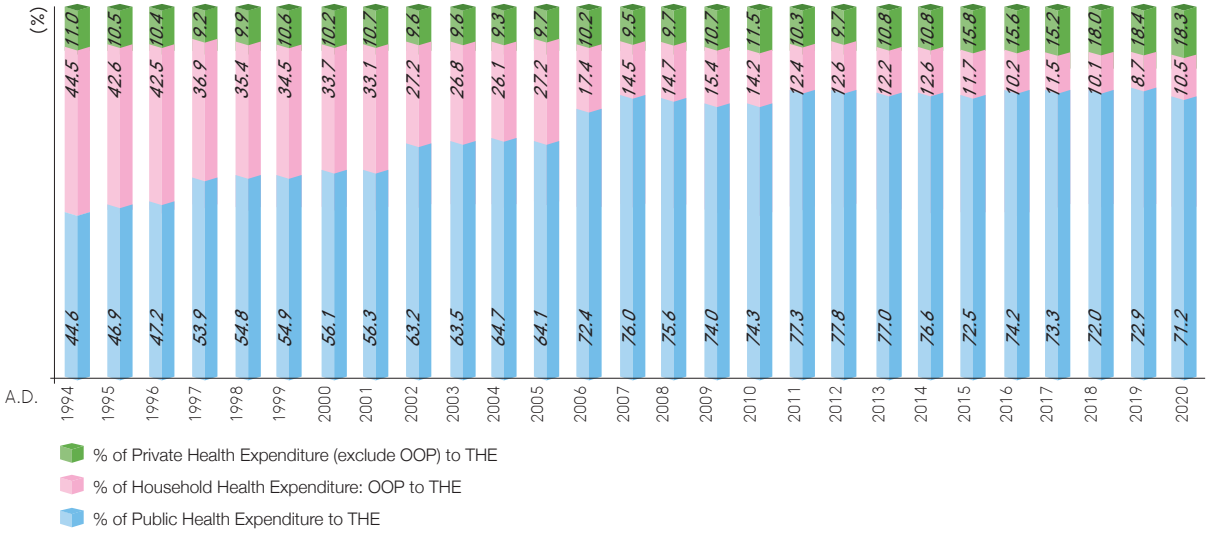
Source: *https://data.worldbank.org/country/thailand. In 2020, GGE value was 3,461,273 million baht, increasing 14.34% compared to 3,027,257 million baht in the year 2019.*

(3) Household Out of Pocket Payment (OOP) is the direct payment made by households for the costs of healthcare services such as investigation, treatment, medicine, copayment, service charge, but not include health expenditure reimbursement from Health Insurance Company, advanced payment for health insurance, travel cost, accommodation, and food.

Considering the ratio among Public health expenditure, Household Health Expenditure/ Out of pocket (OOP), and Private health expenditure excluding OOP, it has been found that the ratio of household expenditure to Total health expenditure (National health expenditure) has decreased yearly but increased in the FY 2020 to 71.2%. The ratio of private health expenditure excluding OOP has increased yearly and the rate has been constant at 18.3%. (Figure 1-12)

Figure 1-12

Proportion of Total Health Expenditure classified by the source of health expenditure; Public, Out of Pocket: OOP and Private exclude OOP in the Year 1994-2020

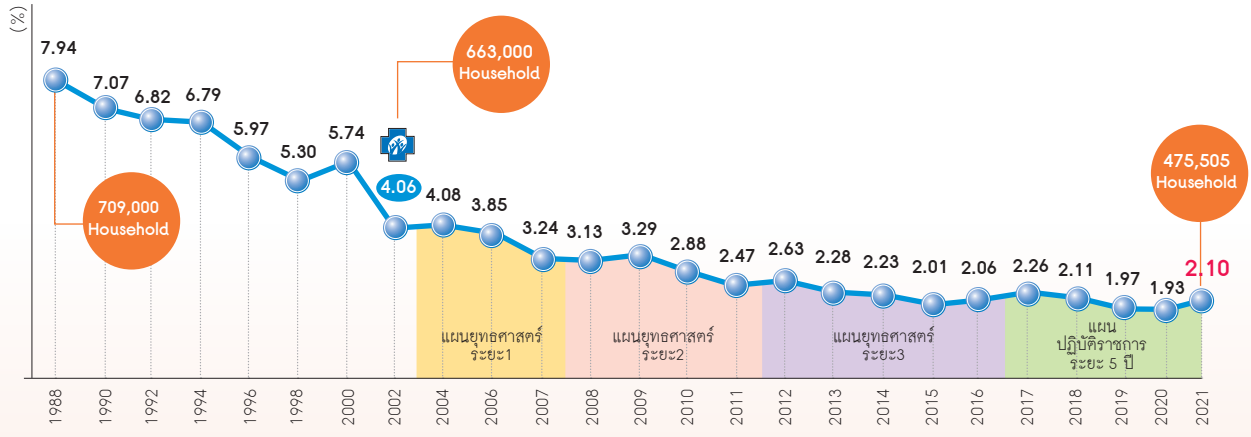


Source: *National Health Account, 2020, International Health Policy Program: IHPP, MOPH*

Catastrophic Health Expenditure, calculated on Budget share, the general standard method accepted by the World Health Organization and the World Bank for Sustainable Development Goals for SDG 3.8.2 is not over 2.3 percent or households with out-of-pocket health expenditure more than 10% of total out of pocket expenditure index has been decreasing as per the goals. In 2021 the index was at 1.93 percent or 475,505 households which higher than the previous year (In 2020 the index was at 1.93 percent or 431,374 households (Figure 1-13).

Figure 1-13

Percentage of households with Catastrophic Health Expenditure in the Year 1988-2021



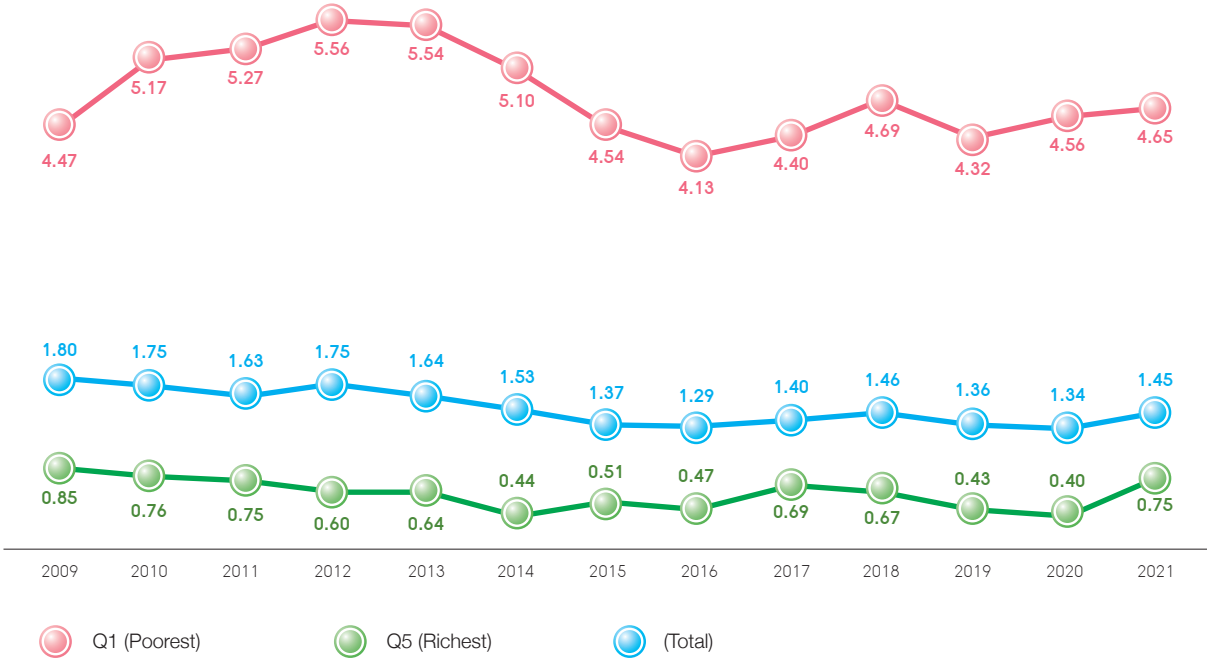
Source: *Household Socio-Economic Survey, National Statistical Office in 1988-2021, Analyze by International Health Policy Program: IHPP, MOPH*

Notes:
1. *Calculated from households with out-of-pocket health expenditure more than 10% of total out of pocket expenditure.*
2. *After 2006, the National Health Statistic Office annually conducts the household socio-economic survey (household expenditure) every year.*

Analyzing household with catastrophic health expenditure with Normative spending on food, housing, and utility, which was used by WHO member states in Europe or household with out-of-pocket health expenditure more than 40 percent of out-of-pocket expenditure subtract with out of pocket for living such as food, housing, and utilities, in the fifth National Health Security Action Plan has proposed this new indicator, found that households faced with financial crisis in all economic status has been declined but the year 2021 was 1.45 percent which was higher than 2020 (1.34 percent).

When classified by economic status, it found that the poorest household (Quintile 1 or household with the first 20 percent lowest income) faced with catastrophic health expenditure quite high equivalent to 465 percent when compared with the richest household (Quintile 5 or household with 20 percent highest income after) which faced with catastrophic health expenditure only 0.75 percent (Figure 1-14). The poorest households had different competency in health expenditure when compared to households in all economic status and the richest households. This is the challenge of NHSO.

Figure **1-14** **Percentage of households with Catastrophic Health Expenditure, Normative spending on food, housing, and utility of 40%, classified by Quintile1 and Quintile 5 in the Year 2009-2021**

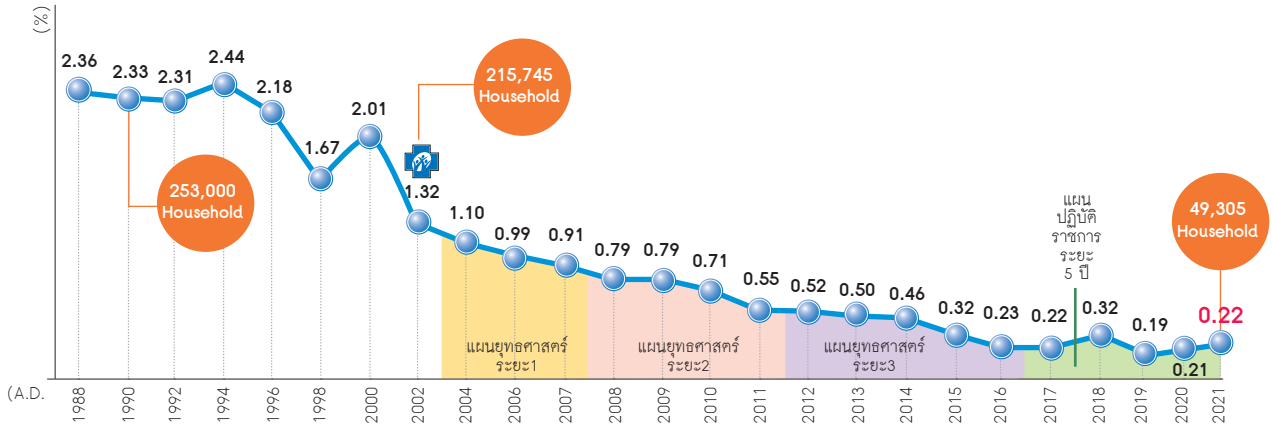


Source: *Household Socio-Economic Survey, National Statistical Office in 1988-2021, Analyze by International Health Policy Program: IHPP, MOPH*

Notes:
1. *Calculated from households with out-of-pocket health expenditure more than 40% of total out of pocket expenditure subtracts with Normative spending on food, housing, and utility of 40)*
2. *After 2006, the National Health Statistic Office annually conducts the household socio-economic survey (household expenditure) every year.*

(4) Health Impoverishment at no higher than 0.47 percent; it has been learned that households above poverty line that became impoverished had decreased continuously. In the fiscal year 2021, the index was 0.22 percent or 49,305 households which was higher than the figure in the fiscal year 2020 (0.21 percent or 47,648 households) (Figure 1-15).

Figure 1-15 **Percentage of households with Health Impoverishment in Year 1988-2021**



Source: *Household Socio-Economic Survey, National Statistical Office of Thailand in 1988-2021, Analyze by International Health Policy Program: IHPP, MOPH*

Remarks:
1. *Calculated from household above poverty line but after paying for health expenditure fall below poverty line.*
2. *After 2006, the National Health Statistical Office of Thailand annually conducts the household socio-economic survey (household expenditure).*
3. *Updated by recalculating and using the poverty line from the annual survey of the National Health Statistical Office of Thailand.*
4. *For the 2020 year, calculations were done by using the 2020's Poverty Line of the Office of the National Economic and Social Development Council, and adjusted for Customer Price Index (CPI) of 2021*

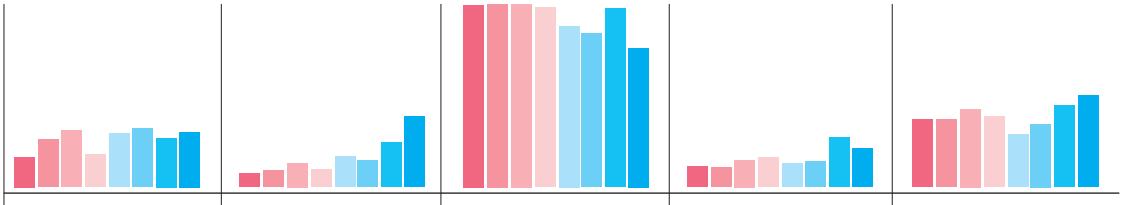
6. Health Equity

With the aim of Universal Health Coverage that all people access to necessary health services without financial catastrophe, achievement of this goal needs the chance of access for everyone. In the real situation, all citizens in every country have different status resulting in unequal access to necessary and there are also numerous obstacle factors of access to health services such as geographic countryside, a city, or sickness and disability. The principle of equity is different support for equal health outcome. Hence, health equity is defined as **the state in which everyone has a fair and just opportunity to attain their necessary and quality health services for good health outcome.**

To evaluate heath equity, NHSO receives good cooperation from the Foundation of International Health Policy to conduct financial incidence analysis (FIA) by using Kakwani Index method, and Benefit incidence analysis (BIA) with Concentration Index.

The major source of country's health financing is government revenue, which is direct and indirect tax, the rest comes from people out of pocket such as social security premium, direct payments, and private health insurance. An assessment of health financing in 2021 revealed that Thailand health financing was in a progress direction which the rich paid for health more than the poor when compared to the rate of ability to pay, the Kakwani index valued of 0.234 which was higher than the previous year. When analyzed each source of health financing, it found that direct tax was most progressive with Kakwani index valued 0.3525 which evidenced that government health budget allocated for most of citizens was equity. (Figure 1-16)

Figure 1-16 **Equity in health financing (Kakwani Index classified by source of resource in the Year 2007-2021)**



	Household	Private insurance and social security insurance	Indirect tax	Direct tax	Total sources of finance
2007	0.0792	0.0391	0.4600	0.0574	0.1725
2009	1.1235	0.0479	0.4627	0.0538	0.1736
2011	0.1469	0.0649	0.4622	0.0725	0.1993
2013	0.0861	0.0496	0.4531	0.0783	0.1816
2015	0.1386	0.0825	0.4073	0.0640	0.1355
2017	0.1521	0.0735	0.3888	0.0681	0.1629
2019	0.1288	0.1175	0.4501	0.1285	0.2102
2021	0.1437	0.1809	0.3525	0.1019	0.2340

Source: Assessment Report of Heath Equity and Financial Equity, the Fiscal Year 2022, IHPP, MOPH

Benefit incidence analysis in 2021 revealed that the poor slightly received benefits from public health services more than the rich both outpatient and inpatient services with concentration index valued -0.052 and -0.078 respectively (Table 1-2). When comparing among the levels of service units, it found the difference of benefit; at the level of health center and community hospital, the poor gained benefit from outpatient services more than the rich, while at the level of general hospital, regional hospital, the difference was not significance. (Table 1-3 and Table 1-4)

Benefit Incidence Analysis of Inpatient services from government budget at Community Hospital, General Hospital/Regional Hospital, the poor received benefits more than the rich, while at University Hospital, and Private Hospital, the rich gained benefit more than the poor.

Benefit Incidence Analysis of the beneficiaries under the UCS, it found that the poor have received benefit more than the rich (Figure 1-17)

Table 1-2 **Concentrate Index of Benefit incidence analysis classified by Outpatients and Inpatients service in the Year 2007-2021**

Type of Service	Outpatients Benefit incidence analysis							
	2550	2552	2554	2556	2558	2560	2562	2564
Outpatients	-0.002*	-0.063	-0.095	-0.067	-0.049	-0.020	-0.060	-0.052
Inpatients	-0.051	-0.091	-0.090	-0.092	-0.094	-0.025	-0.047	-0.078
Total (Outpatients + Inpatients)	-0.035	-0.077	-0.094	-0.081	-0.076	-0.023	-0.053	-0.067

** Not Statistically significant at a confidence level of 95%*

Source: Assessment Report of Heath Equity and Financial Equity, the Fiscal Year 2022, IHPP, MOPH

Table 1-3 **Concentrate Index of Benefit incidence analysis for Outpatients service classified by type of healthcare units in the Year 2007-2021**

Type of healthcare unit	Outpatients Concentrate Index of Benefit incidence analysis							
	2550	2552	2554	2556	2558	2560	2562	2564
Health center	-0.305	-0.292	-0.216	-0.231	-0.235	-0.232	-0.289	-0.311
Community Hos.	-0.175	-0.165	-0.151	-0.156	-0.149	-0.150	-0.196	-0.181
General/regional Hos.	0.067*	-0.003*	-0.062*	-0.035*	-0.001*	-0.023*	-0.036*	-0.009*
University Hos.	0.306	0.242	0.068	0.291	0.089	0.236	0.438	0.385
Hospital under Gov.	0.220	0.071*	0.057*	0.046*	0.078	0.171	0.069*	0.177
Private Clinics	-0.037*	0.040*	-0.023*	-0.011*	0.001*	-0.021*	0.076*	0.095*
Private Hos.	0.149	0.168	0.205	0.259	0.223	0.265	0.272	0.369

** Not Statistically significant at a confidence level of 95%*

Source: Assessment Report of Heath Equity and Financial Equity, the Fiscal Year 2022, IHPP, MOPH

Table

1-4 **Concentrate Index of Benefit incidence analysis for Inpatients service classified by type of healthcare units in the Year 2007-2021**

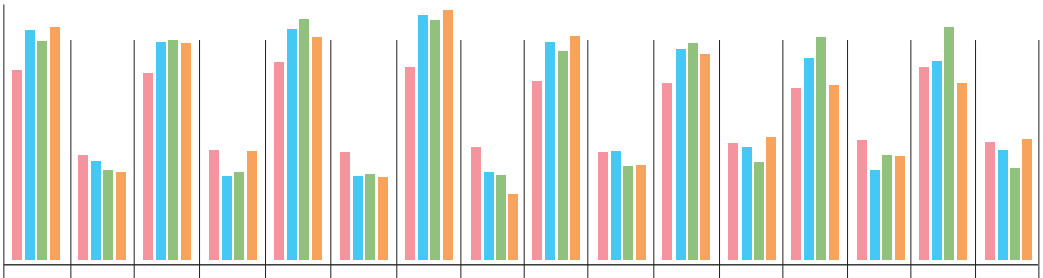
Type of healthcare unit	Inpatients Concentrate Index of Benefit incidence analysis							
	2550	2552	2554	2556	2558	2560	2562	2564
Community Hos.	-0.236	-0.190	-0.199	-0.196	-0.095	-0.186	-0.189	-0.208
General/regional Hos.	-0.065	-0.066	-0.090	-0.064	-0.090	-0.052	-0.063	-0.140
University Hos.	0.408	0.277	0.194	0.345	0.148	0.181	0.345	0.572
Hospital under Gov.	0.151*	-0.061*	0.017*	-0.026*	-0.105*	-0.106*	0.11*	0.172*
Private Hos.	0.258	0.266	0.316	0.345	0.396	0.412	0.430	0.364

** Not Statistically significant at a confidence level of 95%*

Source: Assessment Report of Heath Equity and Financial Equity, the Fiscal Year 2022, IHPP, MOPH

Figure

1-17 **Proportion of Benefit incidence analysis for Outpatients and Inpatients service under UCS Population classified by Quintile 1 and Quintile 5 in the Year 2007-2021**



	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)	Poorest (Q1)	Richest (Q5)
	2007		2009		2011		2013		2015		2017		2019		2021	
UCS card holder ratio	23.2	12.7	22.8	13.4	24.1	13.1	23.4	13.7	21.8	13.2	21.5	14.2	21.0	14.6	23.5	14.4
Subsidy (OP+IP)	28.0	8.9	26.6	10.2	28.2	10.3	29.9	8.0	26.6	9.9	25.7	13.7	24.6	11.0	24.3	13.3
Subsidy (OP)	26.9	11.0	26.9	10.7	29.3	10.5	29.3	10.4	25.5	11.5	26.5	12.0	27.3	9.6	28.4	11.2
Subsidy (IP)	28.5	8.0	26.5	9.9	27.3	10.1	30.4	6.0	27.4	8.7	25.1	15.0	21.3	12.7	21.6	14.7

Source: Assessment Report of Heath Equity and Financial Equity, the Fiscal Year 2022, IHPP, MOPH

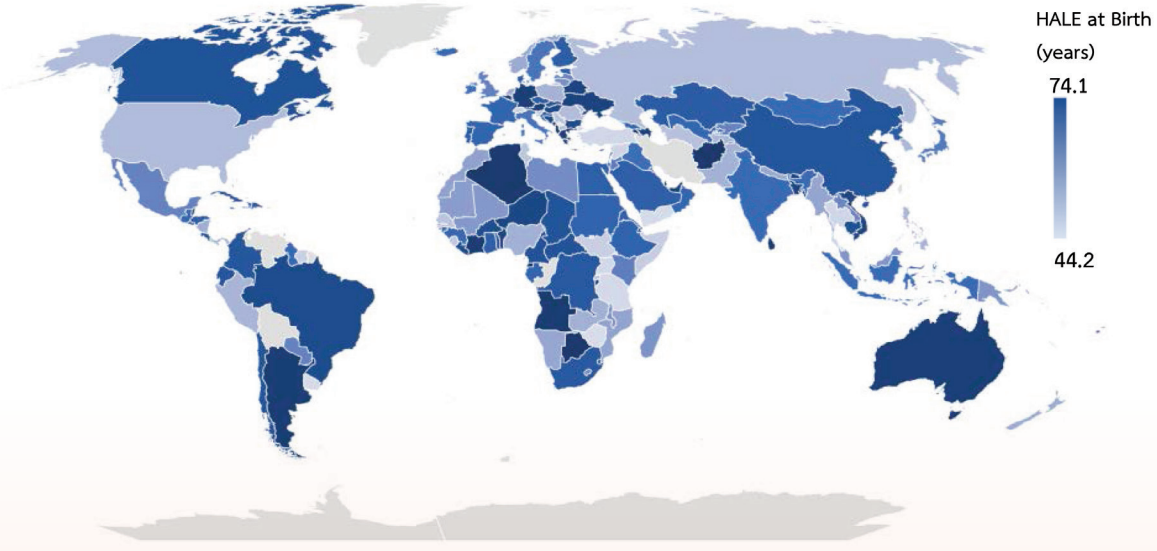
In conclusion, health financing and budget support from the government create equity and opportunity for all Thai citizens and the underprivileges to access health care services and leaving no one behind.

7 Universal Health Coverage with Health adjusted Life Expectancy: HALE

The ultimate goals of Universal Health Coverage are improving people's health, equity in healthcare, financial protection from catastrophe or impoverish, and health care systems can response to necessary needs for health (Kutzin,2013). Life expectancy at birth and Healthy life expectancy are health indexes used to evaluate health status.

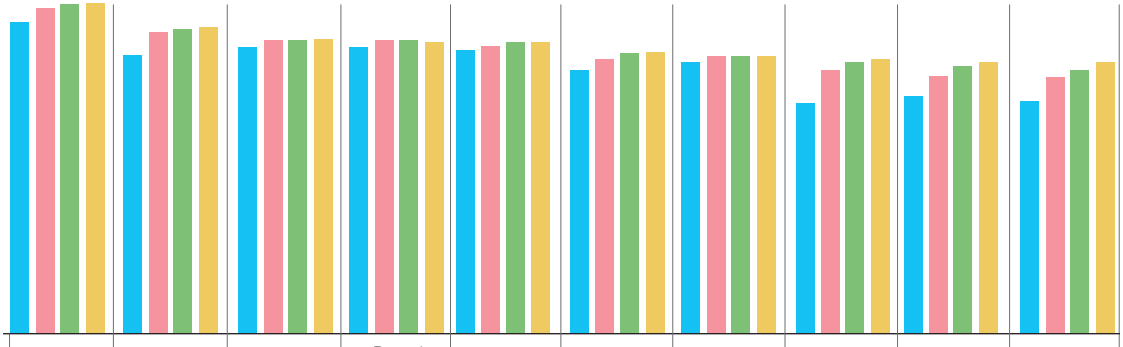
In Thailand, Life expectancy at birth increase from 71.25 years (male=67.52 years, and female=75.2 years) in 2000 to 77.7 years (male=74.76 years, and female=81.04 years) in 2019 ((The Global Health Observatory Indicators, WHO). It means that Thai citizens live longer. In the same direction, Healthy life expectancy at birth increased from 62.6 years (male = 59.9 years, and female =70.6 years) in 2000 to 68.3 years (male =65.9 years, and female =70.6 years) in 2019, ranked 49th of countries in the world (Figure 1-18). Comparing among ASEAN countries, Healthy life expectancy at birth of Thai people ranked 2nd follow Singapore (Figure 1-19). Universal Health Coverage is the important factor to achieve health status of Thai people. The important factor contributing to good HALE of Thai people is the Universal Health Coverage. (Ranabhat CL, 2018)

Figure **1-18** **Healthy Life Expectancy at Birth, worldwide in the Year 2019**



Source: *WHO data, the global health observatory, indicators, life expectancy and healthy life expectancy, available on https://www.who.int/data/gho/data/themes/topics/indicator-groups/indicator-group-details/GHO/life-expectancy-and-healthy-life-expectancy*

Figure 1-19 **Healthy Life Expectancy at Birth among ASEAN Countries in the Year 2000-2019**



	Singapore	Thailand	Malaysia	Brunel Darussalam	Viet Nam	Indonesia	Philippines	Cambodia	Myanmar	Lao PDR
2000	69.5	62.6	64.0	63.9	63.3	59.0	60.6	51.4	52.9	51.8
2009	72.3	67.1	65.4	65.8	64.5	61.2	61.6	59.0	57.2	57.4
2015	73.2	68.0	65.8	65.7	64.9	62.3	61.9	60.7	59.6	59.3
2019	73.6	68.3	65.7	65.6	65.3	62.8	62.0	61.5	60.9	60.5

Source: WHO data, the global health observatory, indicators, life expectancy and healthy life expectancy, available on https://www.who.int/data/gho/data/themes/topics/indicator- groups/indicator-group-details/GHO/life-expectancy-and-healthy-life-expectancy

Thailand has been classified as an Aged Society since 2021. Health system development for increasing Healthy Life Expectancy is very challenge for Thailand quality Aged Society which will contribute to create economic growth and reduce health expenditure

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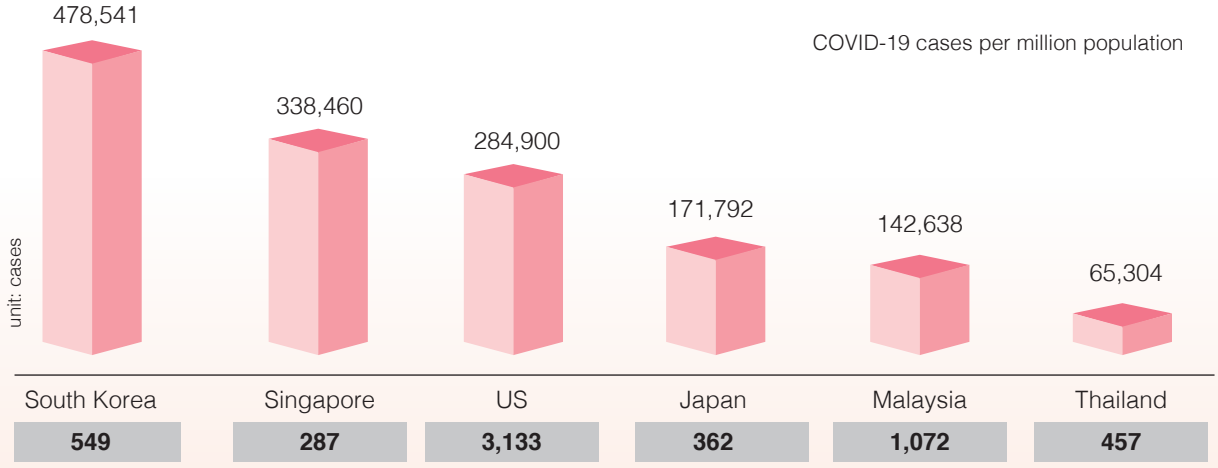
2 The Global Health Observatory Indicators, World Health Organization, Available on https://www.who.int/data/gho/data/indicators/indicator-details/GHO/gho-ghe-hale-healthy-life-expectancy-at-birth
3. Ranabhat CL, Atkinson J, Park M-B, Kim C-B and Jakovljevic M (2018) The Influence of Universal Health Coverage on Life Expectancy at Birth (LEAB) and Healthy Life Expectancy (HALE): A Multi-Country Cross-Sectional Study. Front. Pharmacol. 9:960. doi: 10.3389/fphar.2018.00960

8. Global Health Security Index and COVID-19, Emerging Infectious Diseases, Situation and Response in Thailand

Thailand faced with the outbreak of COVID-19 like all countries in the world. Because of the strength of health infrastructure, competent healthcare facilities especially in the public sector located all over the place, including more than 1 million village health volunteers in all communities, experienced health workforce in disease prevention, health promotion, treatment, Universal health coverage which cover all Thai citizens to access COVID-19 screening, treatment, and COVID-19 vaccination. All of these cover all Thai citizens and expand to migrant workers and people living in Thailand. With these factors, Thailand had COVID-19 infectious rate 65,304 per 1 million population, and case fatality rate equaled to 457 per 1 million population, which was lower than other countries. (Figure 1-20). The Global Health Security Index (GHS index), developed by Nuclear Threat Initiative (NTI), John Hopkins Center for Health Security and The Economist Intelligence Unit (EIU), ranked Thailand 5th and 6th in 2019 and 2020 respectively. These results were admired by many countries, especially the World Health Organization, the Director General of WHO, admired Thailand on the Opening Remark of the 37th World Health Assembly that Thailand coped with COVID-19 effectively and invited WHO member states followed the experiences of Thailand. WHO headquarter send letter of admiration to Deputy Prime Minister and Minister of Public Health that Thailand was one of four countries that cope with COVID-19 strongly with supportive from high rank of policy maker who assigned policy, strong health care system especially the Universal Coverage Policy which has collaboration from public sector, private sector, and civil sector.

Figure 1-20 **Morbidity rate and Mortality rate of COVID-19 per million population of selected countries in ASIA and United State of America, Cumulative data initial report to 30 September 2022**



Source : Over world in data, the complete Over world in data Coronavirus (COVID-19) dataset https://ourworldindata.org/covid-deaths (Cumulative data initial report to September 30th, 2022, access data January 29th, 2033)

PART

2

Overview Results of Universal Coverage Scheme

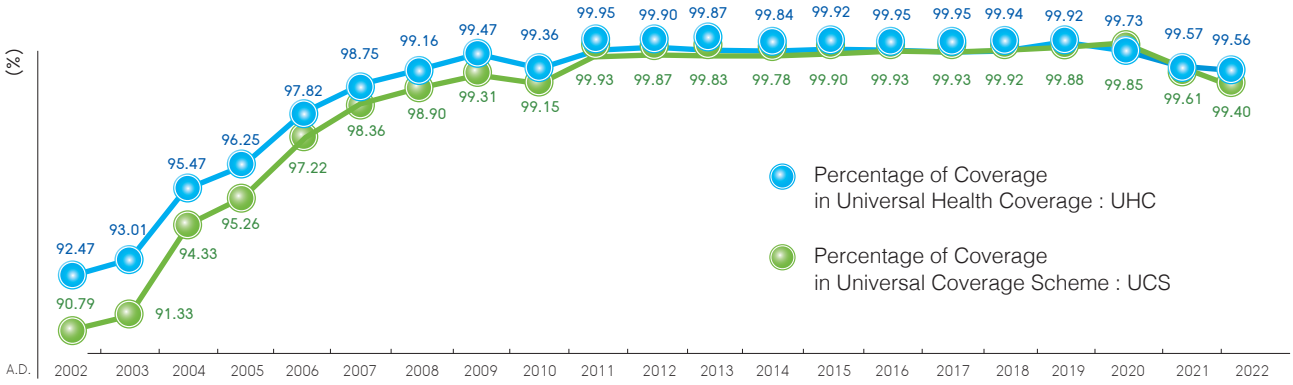
1. Universal Coverage Scheme : UCS

The Universal Coverage Scheme is the major health coverage for Thai citizens not protected by other forms of insurance under the guidelines of Universal Health Coverage 2002. 99.56 percent of individuals are protected by the Universal Health Coverage and 99.40 percent under the Universal Coverage Scheme in 2022 (Figure 2-1).

COVID-19 cases per million population

Figure **2-1**

Percentage of Universal Health Coverage (UHC) and Universal Coverage Scheme (UCS) in the Fiscal Year 2002-2022



Source: *Department of Registration, Fund Management Unit, NHSO, Data as of September 30th, 2022*

Notes: *1. In FY 2022, the calculation of Percentage of Universal Coverage Scheme coverage was changed from the previous year.*

Previous formula:

Percentage of UHC = number (no.) of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals x 100

no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals – non-registered individuals

Revised formula:

UHC = no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals x 100

no. of individuals eligible under UCS + no. of individuals eligible under other health insurance schemes + no. of undocumented individuals – non-registered individuals + no. of individuals without household registrations + number of Thai citizens living abroad

2. Percentage of UCS = no. of individuals eligible under UCS x100

no. of individuals eligible under UCS+ no. of unregistered individuals

2. Benefit Package of Universal Coverage Scheme

The fiscal year 2022 had seen an upgrade of UCS consisting of:

1. Primary Healthcare anywhere meaning that Outpatients can elicit healthcare services at any Primary healthcare centers while Inpatients do not need referral forms to receive treatment.
2. One Day Surgery (ODS) services have been increased from 45 to 65 surgeries and Minimally Invasive Surgery (MIS) has been increased from 9 to 15 surgeries.
3. Increased access to four Category E2 drugs consisting of 1. Imatinib and 2. Dasatinib for treatment of Acute Lymphoblastic Leukemia (ALL), 3. Tocilizumab for treatment of Systemic JIA in children 2 years and above, who were irresponsive to the treatment and 4. Ceftazidime/ avibactam for treatment of Carbapenam-resistant Enterobacteriacae
4. Screening for Grade 1 students and Grade 1 students suspicious of abnormal eyesight including provision of spectacles for children with abnormal eyesight.
5. Provision of disposable adult diapers/ adult absorbency pads for bedridden patients and patients suffering from incontinence of urination and defecation
6. Addition of 3 Traditional Thai medicine infused with cannabis in the National List of essential Drugs, Herbal Medicine consisting of 1. Carminatives, treatment of myofascial chains, and drugs for the treatment of compressive neuropathy,

2. Sukhsaiyas medication for better sleep and appetite stimulators and 3. Phra Su-Men Treatment medication for the treatment of bad circulation, rehabilitation of weak muscles from seizure and paralysis

7. Post exposure of Antiretroviral HIV Prevention services through 1. HIV Occupation Post-Exposure Prophylaxis (oPEP), 2. HIV Non-Occupation PEP
8. All UCS-eligible kidney failure patients can discuss with their doctors as to the best dialysis method including "Free Dialysis" for new patients or Continuous Ambulatory Peritoneal Dialysis (CAPD) patients or Hemodialysis (HD) Self-Pay patients (Effective since 1st February, 2022)
9. Expanded indications on usage of Human Normal immunoglobulin, intravenous (IVIG) for patients suffering from these side effects of COVID: Vaccine-induced thrombotic thrombocytopenia (VITT) post-COVID vaccination, Multisystem Inflammatory Syndrome in Children (MIS-C) post-COVID in children and Myocarditis/Pericarditis post-mRNA COVID vaccination.

In addition, the NHSO will be adding the following services effective in 2023: 1. Vital Pulp Therapy, 2. Dental Implants for the Dentulous and Screenings for HBsAg in pregnant women, 3. Screening for Thalassemia for all husbands/partners of pregnant women, 4. Screening for Syphilis for all husbands/partners of pregnant women, 5. Screening for hearing in all Thai newborns, 6. Investigate for BRCA1 and BRCA2 in all high-risk breast and ovarian cancer patients with direct relatives having the mutated gene, 7. Screening for genetic metabolic diseases using Tandem Mass Spectrometry (TMS) in newborns, 8. CA Oral Screening, 9. High Blood Pressure Measurement (HBPM) at home, 10. Thailand National Quitline for cigarettes and mental health (Call 1600), 11. Screenings for risks leading to cardiovascular diseases (Figure 2-2) (Table 2-1)

Table 2-1 **Development of UCS Benefit package in the Year 2002-2022**

Year	Benefits
2002	• All Thai citizens are covered by UHC and have access to health promotion, disease prevention, treatment, medical rehabilitation and National Essential Drug List as required
2003	• Reduced waiting list for cataract lens replacement surgery
2004	• Established medical rehabilitation fund • Established UHC Customer Coordination Center
2005	• Added care for HIV/AIDS patients (Antiretrovirals, laboratory procedures, voluntary blood test counseling, free condoms)
2006	• Established the local, or community, National Health Security Fund • Established NHSO service centers within service units • Implemented Compulsory Licensing (CL) for expensive, life-saving drugs
2007	• Heart surgery queue reduction program (from 2 years to 6 months) • Added Thai Traditional Medicine • Access to care for treatment of diseases with high costs
2008	• Added Renal Replacement Therapy for end-stage chronic kidney failures • Added Methadone, an opioid derivative, for rehabilitation of addicts
2009	• Increased access to high-cost medicine (Category E2) • Shortened queue for urinary stone surgeries • Added Influenza vaccinations • Established complaint units independent of the defendant as per the Article 50 (5)
2010	• Expanded the UC benefits to undocumented persons • Increased access to orphan drugs/ Thai traditional drugs • Extended CL drugs deadline • Abolished the inpatient time limit for psychiatric patients for prolonged treatment

Table

2-1 Development of UCS Benefit package in the Year 2002-2022

ปี	Benefits
2011	• Screening for complications in Diabetes Mellitus and Hypertension
2012	• Added liver transplantation for under 18 years old with congenital bile duct obstruction • Added heart Transplantation • Launched UCEP • Application for changes of services up to 4 times a year
2013	• Expansion of the seasonal influenza vaccinations • Added stem cell transplantation for leukemia and lymphoma
2014	• Established National Clearing House (NCH) • Integrated a single standard cancer treatment service • Provision of additional funds to remote and risky areas including the southern region
2015	• Added 4 items to the list of E2 drugs: Trastuzumab for early-stage breast cancer patients, Peginterferon for Hepatitis C Strains 2,3 Strains 1,6 and Nilotinib for HIV-positive patients and Dasatinib for Leukemia and Lymphoma patients • Access to Antiretroviral drugs (ARV) regardless of CD4 count • Unlimited deliveries
2016	• Integrated all 3 public health insurance schemes' databases to reduce inequality • Increased HIV prevention services for high-risk groups such as MSM, TG, MSW, FSW, PWID • Long term care for dependent elderly • Care for chronic psychiatric patients in communities
2017	• Expanded cervical cancer screening service • Implemented the Universal Coverage for Emergency Patients (UCEP) from 1st April, 2017; an expansion from the 3 Emergency funds policy
2018	• Implemented Primary care cluster (PCC) program • Administration of Human papillomavirus vaccine (HPV vaccine) for Grade 5 students • Screenings for colon cancer • Screenings and added medications for Hepatitis C • Added 12 items to One Day Surgery (ODS)
2019	• Expanded E2 drug lists - Added the 5-in-1 vaccine consisting of vaccines for diphtheria, tetanus, pertussis, Hepatitis B and encephalitis (DTP-HB-Hib) - Rabies vaccine - Raltegravir (for prevention of mother-to-fetal transmission) - antiretroviral - Bevacizumab for central retinal vein occlusion • Added 7 items for prevention of diseases in pregnant women and infants 1. Check for Thalassemia in pregnant women and husbands 2. Screenings for Down Syndrome in women above 35 years of age 3. Screenings for thyroidal hormone disorders in infants 4. Added antenatal care 5. Semi-permanent contraception (intrauterine device/ contraceptive implants) for women under 20 years of age 6. Semi-permanent contraception (intrauterine device/ contraceptive implants) for women under 20 years of age in cases of pregnancy termination 7. Added cervical cancer screenings • Add 24 one-day surgeries (ODS) items • Added one Minimally Invasive Surgery (MIS) item
2020	• Added 31 one-day surgeries (ODS) items • Added three Minimally Invasive Surgery (MIS) items • Treatment cand care of 24 Rare Diseases- Inherited Metabolic Disorders of small molecules • Stem cell transplant for Thalassemic patients • Rotavirus vaccinations for 2-6 months infants • Down Syndrome screenings for pregnant under the age of 35 • Screening for cervical cancer using HPV DNA test

Table

2-1 **Development of UCS Benefit package in the Year 2002-2022**

ปี	Benefits
	• Fluoride varnish for children aged 4-12 years and dental sealants for children 6-12 years • Community-based care for bed -ridden patients in all age groups and under all health insurance schemes • Piloted home chemotherapy for colon cancer patients • Added Pre-Exposure Prophylaxis (PrEP) for at-risk HIV groups or those with HIV-at-risk behaviors • Added cost for non-ER patients requiring help outside of governmental hours to increase efficiency in the ER for a quality ER • Piloted Automated peritoneal dialysis (APD) for HIV/AIDS patients • Initiated the New Normal public healthcare, where services were transferred outside the service units and ensuring that individuals maintained social-distancing due to the COVID-19 pandemic; the New Normal services includes community pharmacies (near home pharmacies), drugs delivery to patients' house, telehealth/telemedicine, laboratory procedures done out of service units (blood test near home), nursing and midwifery, and physical therapy at home or community
2021	• Gold Card Upgrade services for: 1. Ill citizens can be treated at any Primary Health Care (Primary Health Care anywhere) (2021: piloted in Health Regions 7-10 of the northeastern region and Health Region 13 Bangkok, 2022: expanded nationwide) 2. Paperless referral systems for patients (piloted in Health Region 9 Nakhorn Ratchasima, and Health Region 13 Bangkok, 2021: expanded nationwide) 3. Cancer patients can be treated anywhere (Cancer Anywhere) (Nationwide) 4. Immediate transfer of service units without the 15 days wait • Increase One Day Surgery (ODS) items from 31 to 45 and from 4 Minimally Invasive Surgery (MIS) items to 9 • Expanded screenings for intestinal cancer using Fit Test for all schemes and screenings for Down Syndrome to women of all ages • Added acupuncture, or electrical acupuncture, for new stroke patients • Added Intermediate care (IMC) for new stroke patients, traumatic brain injury and spinal cord injury • Automated Peritoneal Dialysis (APD) • Added three cancer drugs: 1. Capecitabine tablets for treating cancers of the intestines, stomach and breast for home chemotherapy; 2. Oxaliplatin injection, and 3. Irinotecan HCl Injection for large intestinal cancer patients within 2 hours, who initially had to be hospitalized for 2 days • Fixed-dose combination Sofosbuvir/Velpatasvir, a Hepatitis C Direct Acting Antiviral (HCA DAA) for all strains of Hepatitis C • Utilization of cannabis oil for cancer, Parkinson's and migraine patients while cannabis extract for end-stage cancer patients and epileptic patients • Added liver transplant for decompensated and compensated cirrhotic patients • Added screenings for Human Leukocyte Antigen allele-B*5801 (HLA-B*5801) before prescriptions of Allopurinol in new gout patients • Added Extracorporeal Membrane Oxygenator (ECMO) for cardiac illness or acute respiratory distress • Screenings for tuberculosis using Chest X-Ray (CXR) in all at-risk groups and laboratory tests for tuberculosis while molecular assay for drug-resistant tuberculosis • Hearing screenings in 0-6 months high-risk newborns • Added rechargeable cochlear implants for under 5 years old receiving cochlear implant surgeries and can hear only at a range higher than 90 dB and have never learned sign language Cancer testing using PET/CT scan as an alternative for 1. Non-small cell lungs cancer (NSCLC) stage evaluation, 2. Assessment of initial disease stage and assessment of response during chemotherapy and at the end of chemotherapy treatment in Hodgkin's lymphoma (HL) patients

[1] *Note: Effective in 2022 Fiscal Year*

Table

2-1 Development of UCS Benefit package in the Year 2002-2022

ปี	Benefits
2022	• Primary Healthcare anywhere meaning that Outpatients can elicit healthcare services at any Primary healthcare centers while Inpatients do not need referral forms to receive treatment • One Day Surgery (ODS) services have been increased from 45 to 65 surgeries and Minimally Invasive Surgery (MIS) has been increased from 9 to 15 surgeries • Increased access to four Category E2 drugs consisting of 1. Imatinib and 2. Dasatinib for treatment of Acute Lymphoblastic Leukemia (ALL), 3. Tocilizumab for treatment of Systemic JIA in children 2 years and above, who were irresponsive to the treatment and 4. Ceftazidime/avibactam for treatment of Carbapenam-resistant Enterobacteriacae • Screening for Grade 1 students and Grade 1 students suspicious of abnormal eyesight including provision of spectacles for children with abnormal eyesight • Provision of disposable adult diapers/ adult absorbency pads for bedridden patients and patients suffering from incontinence of urination and defecation • Addition of 3 Traditional Thai medicine infused with cannabis in the National List of essential Drugs, Herbal Medicine consisting of 1. Carminatives, treatment of myofascial chains, and drugs for the treatment of compressive neuropathy, 2. Sukhsaiyas medication for better sleep and appetite stimulators and 3. Phra Su-Men Treatment medication for the treatment of bad circulation, rehabilitation of weak muscles from seizure and paralysis • Post exposure of Antiretroviral HIV Prevention services through 1. HIV Occupation Post-Exposure Prophylaxis (oPEP), 2. HIV Non-Occupation PEP • All UCS-eligible kidney failure patients can discuss with their doctors as to the best dialysis method including “ Free Dialysis” for new patients or Continuous Ambulatory Peritoneal Dialysis (CAPD) patients or Hemodialysis (HD) Self-Pay patients (Effective since 1st February, 2022) • Expanded indications on usage of Human Normal immunoglobulin, intravenous (IVIG) for patients suffering from these side effects of COVID: Vaccine-induced thrombotic thrombocytopenia (VITT) post-COVID vaccination, Multisystem Inflammatory Syndrome in Children (MIS -C) post-COVID in children and Myocarditis/Pericarditis post-mRNA COVID vaccination • , 2., 3., 4., 5., 6., 7., 8., 9., 10., 11. • [2] Vital Pulp Therapy • [2] Dental Implants for the Dentulous • [2] Screenings for HBsAg in pregnant women • [2] Screening for Thalassemia for all husbands/partners of pregnant women • [2] Screening for Syphilis for all husbands/ partners of pregnant women • [2] Screening for hearing in all Thai newborns • [2] Investigate for BRCA1 and BRCA2 in all high-risk breast and ovarian cancer patients with direct relatives having the mutated gene • [2] Screening for genetic metabolic diseases using Tandem Mass Spectrometry (TMS) in newborns • [2] CA Oral Screening • [2] High Blood Pressure Measurement (HBPM) at home • [2] Thailand National Quitline for cigarettes and mental health (Call 1600) • [2] Screenings for risks leading to cardiovascular diseases • [2] Active case finding for Tuberculosis in high-risk groups

[2] *Note: Effective in 2023 Fiscal Year*

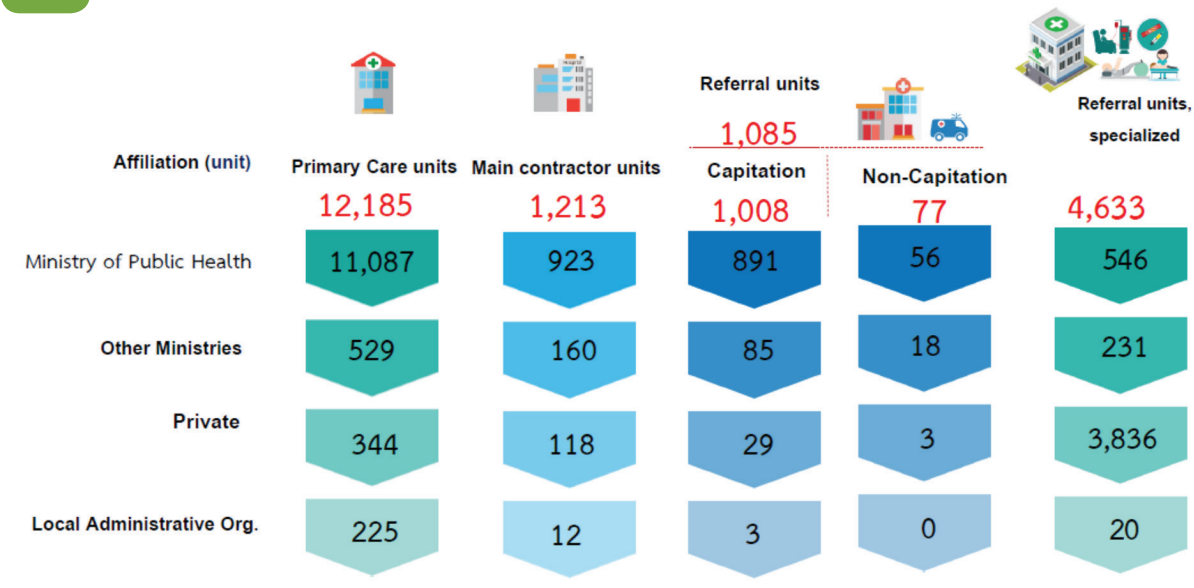
3. UCS Healthcare Units

The Universal Coverage Scheme's healthcare providers consist of primary care units, main contractors, referral units and referral units with specialists of 15 specialties such as hemodialysis, stem cell transplant, health promotion and disease prevention unit, internal medicine, dentistry, pharmacy, Thai medicine, nursing and midwifery, physical therapy, medical rehabilitation. These units are inclusive of public and private sectors providing comprehensive healthcare services for citizens to have convenient access according to the registered services of the unit.

In the 2022 fiscal year, there were a total of 15,847 contracted units; each contracted unit can register as more than one type of service unit under the UCS and are composed of 1. 12,185 Primary Care Units, 2. 1,213 Main Contractors, 3. 1,085 Referral Units of which 1,008 units were reimbursed based on the capitation payment while 77 units were reimbursed based on the non-capitation payment system, and 4. 4,633 specialized referral units (Figure 2-3) (Table 2-2 and Appendix Table 5-2).

Figure

2-3 **Number of UCS Healthcare units in the Fiscal Year 2022**



Source: *Fund Management Unit, NHSO, Data as of September 30th, 2022.*

Notes: *1. The service units can register as more than 1 type of UCS service unit*

2. Referral units under capitation payment system are units that receive pay according to the number of patients while the referral units reimbursed via the non-capitation system are units that are compensated by methods other than the capitation system

3. Other affiliated ministries are Ministries of Interior, Ministry of Defense, and Ministry of Education

Table

2-2 **Number of UCS Healthcare units classified by Types of Registered and Affiliation in the Fiscal Year 2022**

Unit: Units:

Types of Registered	Total	MOPH, Office of Permanent Secretary	MOPH, Other Department)	Other Ministry	Private	Specially Affiliation	Local Gover-nment
1. Primary care units	12,185	11,079	8	519	344	10	225
2. Main contractor units	1,213	915	8	157	118	3	12
3. Referral units	1,085	887	60	99	32	4	3
- Capitation [1]	1,008	887	4	82	29	3	3
- Non-Capitation [2]	77	-	56	17	3	1	-
4. Referral units, specialized	4,633	458	88	203	3,836	28	20
- HD	762	268	6	68	405	5	10
- Percutaneous Coronary Intervention: PCI)	86	35	4	23	21	3	-
- Cardiovascular surgery	66	30	4	19	11	2	-
- (radiotherapy cancer patients)	39	13	9	11	5	1	-

Table

2-2 **Number of UCS Healthcare units classified by Types of Registered and Affiliation in the Fiscal Year 2022**

Unit: Units:

Types of Registered	Total	MOPH, Office of Permanent Secretary	MOPH, Other Department)	Other Ministry	Private	Specially Affiliation	Local Government
- Hematopoietic stem cell transplantation: HSCT	11	3	-	7	-	1	-
- Medical laboratory technologist	165	1	33	9	119	3	-
- Medicine	247	28	2	8	188	13	8
- Dental	67	13	2	6	45	-	1
- Pharmacy	2,513	2	-	18	2,493	-	-
- Physical therapy	54	1	-	3	50	-	-
- Thai traditional medicine	27	21	2	4	-	-	-
- Medical rehabilitation	5	-	-	-	5	-	-
- Nursing and Midwifery	93	1	-	2	90	-	-
- Promotion and Prevention	494	39	26	24	404	-	1
- Field hospitals for Covid-19 patients	4	3	-	1	-	-	-
5. No services [3]	217	63	2	45	3	1	103
Total, Duplicated units [4]	19,333	13,402	166	1,023	4,333	46	363
UCS Healthcare units [5]	15,847	11,093	103	415	3,874	24	338

Source: *Fund Management Unit, NHSO, Data on 30 September 2022*

Note: [1] *Capitation is referral units that are reimbursed according to the number of patients.*

[2] *Non-capitation is referral units that are compensated by other methods than the capitation system*

[3] *No services units are public healthcare units registered with the Ministry of Public Health with no intention of services such as community public health centers, community health center, municipal public healthcare center*

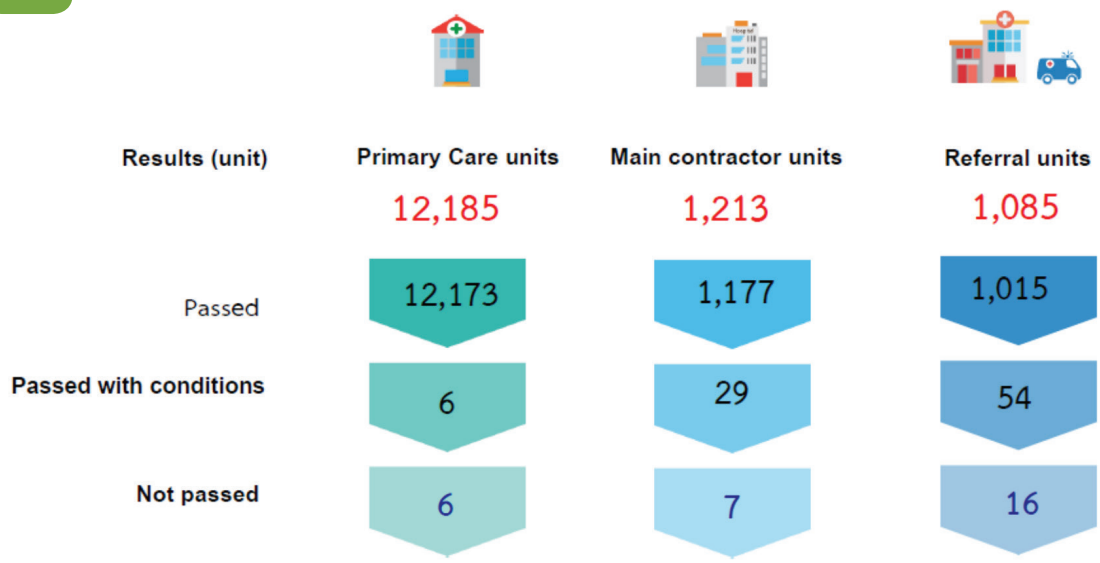
[4] *Total, Duplicated units are all units that have been calculated repeatedly since a unit can be registered as more than one type of service units*

[5] *UC healthcare units are UC healthcare units that have not been calculated repeatedly as per the registration*

Quality Audit and Hospital Accreditation

An evaluation of healthcare units registered with the UCS revealed that the primary care units, main contractors, referral units that had passed the assessment criteria (inclusive of assessment passes and assessment passes with conditions) were at 99.95 percent, 99.42 percent and 98.53 percent respectively (Figure 2-4) (Table 2-3 and Appendix Table 5-3).

Figure **2-4** **Results of UCS Healthcare units assessment in the Fiscal Year 2022**



Source: Fund Management Unit, NHSO, Data as of September 30th, 2022

Table **2-3** **Results of UCS Healthcare unit assessment classified by Types of Registered and Affiliation in the Fiscal Year 2022**

Unit: Units:

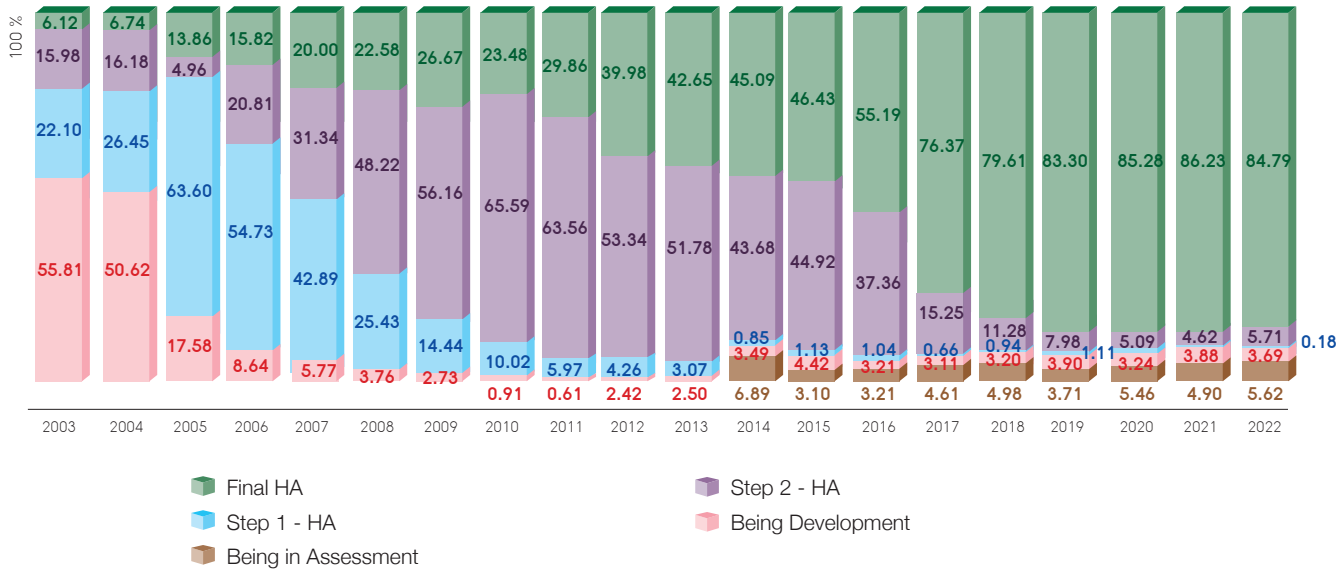
Types of Registered	Total	MOPH, Office of Permanent Secretary	MOPH, Other Department)	Other Ministry	Private	Specially Affiliation	Local Gover-nment
1. Primary care units	12,185	11,079	8	519	344	10	225
- Passed	12,173	11,074	8	516	341	10	224
- Passed with conditions	6	4	-	-	2	-	-
- Not passed	6	1	-	3	1	-	1
2. Main contractor units	1,213	915	8	157	118	3	12
- Passed	1,177	906	8	144	105	3	11
- Passed with conditions	29	5	-	12	11	-	1
- Not passed	7	4	-	1	2	-	-
3. Referral units	1,085	887	60	99	32	4	3
- Passed	1,015	849	53	82	25	3	3
- Passed with conditions	54	33	2	14	5	-	-
- Not passed	16	5	5	3	2	1	-

Source: Fund Management Unit, NHSO, Data as of September 30th, 2022

Quality Audit and Hospital Accreditation

The Referral units, under UCS, have had a quality and standard development as required by the Hospital Accreditation (HA) process. In the FY 2022, 90.69 percent of referral units (984 units from 1,085 units were assessed for accreditation) received accreditation at different steps. Of these, 84.79 percent (920 units) received accreditation at HA Step, 3.69 percent (40 units) were under development and 5.62 percent (61 units) were under the accreditation process (Figure 2-5) (Table 2-4 and Appendix Table 5-4).

Figure 2-5 **Proportion of UCS Hospitals classified by Level of Accreditation in the Fiscal Year 2003-2022**



Source: *The Hospital Accreditation Institue, Data as of September 30th, 2022, analyse by Monitoring and Evaluation Cluster, NHSO*

Notes: *1. Registration as Referral Units with National Health Security System (Capitation and Non-capitation) from the Bureau of Registration, data as of December 1st, 2019*

2. Hospital Accreditation Certification by the Healthcare Accreditation Institute (Public Organization), data as of September 30th, 2022

Table

2-4 Number and percentage of UCS Hospitals classified by Level of Accreditation and Affiliation in the Fiscal Year 2022

Unit: Units:

(Level of HA)	Total	MOPH, Office of Permanent Secretary	MOPH, Other Department)	Other Ministry	Private	Specially Affiliation	Local Gover-nment
1. Assessed Hospital [1]	1,085	887	60	99	32	4	3
2. HA Accreditation [2]	984	821	52	84	22	3	2
- Final HA	920	792	50	70	5	3	-
- Step 2 - HA	62	27	2	14	17	-	2
- Step 1 - HA	2	2	-	-	-	-	-
3. Being developed [2]	40	22	4	8	5	1	0
4. Being in assessment [2]	61	44	4	7	5	-	1

Source: *The Hospital Accrediation Institute, data as of September 30th, 2022, analysed by the Monitoring and Evaluation Cluster, NHSO*

Notes: *1. Registration as Referral Units with National Health Security System (Capitation and Non-capitation) from the Bureau of Registration, data as of December 1stt, 2019*

2.Hospital Accreditation Certification by the Healthcare Accreditation Institute (Public Organization), data as of September 30th, 2022

4. National Health Security Fund

4.1 UCS Fund Budget

The 2022 fiscal year was allotted 198,891.79 million baht of the National Health Security Fund budgets, which was an increase of 4,383 million baht from 2021, or a 6.42 percent increase and comparison with the total country's budget, there has been an increase in the budget when compared to the 2022 budget (Figure 2-6). The NHSF is composed of:

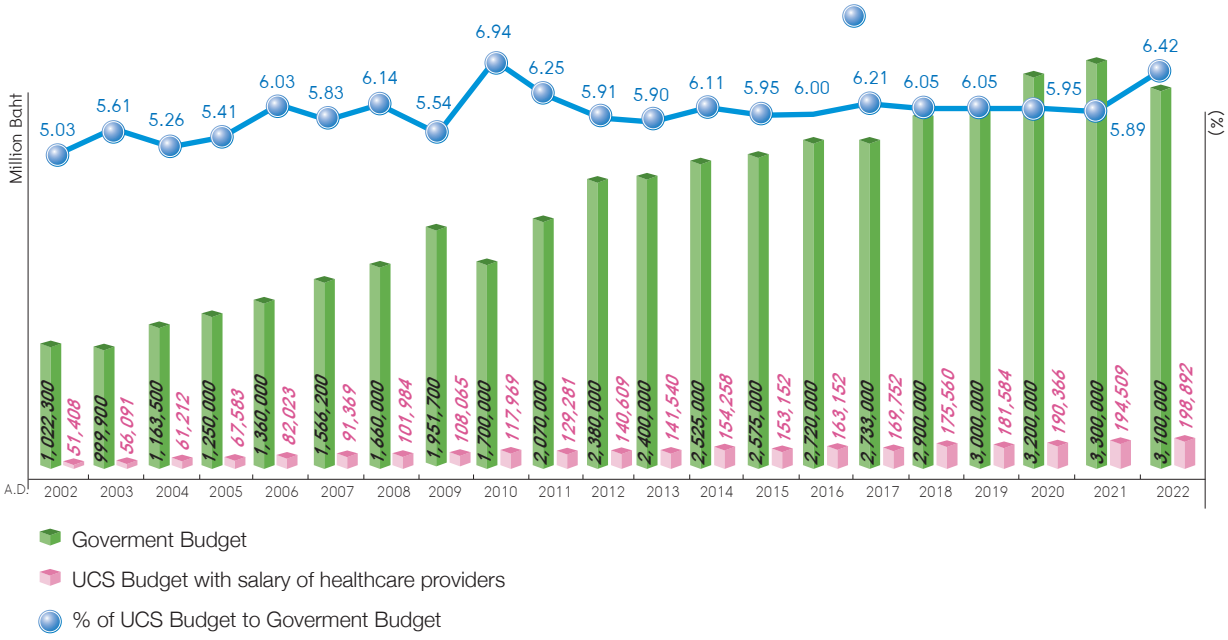
1. Medical Services Capitation was accounted at 158,294.42 million baht of which 99,952.83 million baht was allotted for medical services while 58,341.60 million baht was the salary of UC Public health services officers.

3,329.22 baht was the capitation rate per beneficiary for 47.547 million UC beneficiaries and per beneficiary, it was divided into 1,305.07 baht for outpatient services, 1460.59 baht for inpatient services, 395.14 baht for specialized services and 168.42 baht for other services such as medical rehabilitation services, Traditional Thai medicine services, depreciation/investment, additional budget paid according to service quality.

In the 2022 fiscal year, there was a 463.44 baht per beneficiary for health promotion and disease prevention services, 5.95 baht for initial non-medical assistance to recipients and providers. The lump sum payment of these 2 medical capitation payments was at 3,798.61 baht per beneficiary, or 180,612.81 million baht

2. Non- Capitation payment, or Additional budget for specialized groups, was at 40,597.37 million baht of which 3,768.11 million baht was allotted for HIV and AIDS patients, 9,731.34 million baht for chronic kidney disease patients, 1,154.78 million baht for the control, prevention and treatment of chronic diseases, 1,490.29 million baht for impoverished/at-risk areas, 990.11 million baht assigned to community-dependent individuals, 825.08 million baht COVID health services, and the original services in the capitation payment system consisting of 19,825.42 million baht for health promotion and disease prevention services, 2,769.93 million baht for public health services in coordination with the LAOs, 283.03 million baht of initial subsidy for beneficiaries and providers (Figure 2-6 to Figure 2-9) (Table 2-5 and Table 2-6)

Figure **2-6** **Number and percentage of UCS Budget and Government Budget in the Fiscal Year 2002-2022**



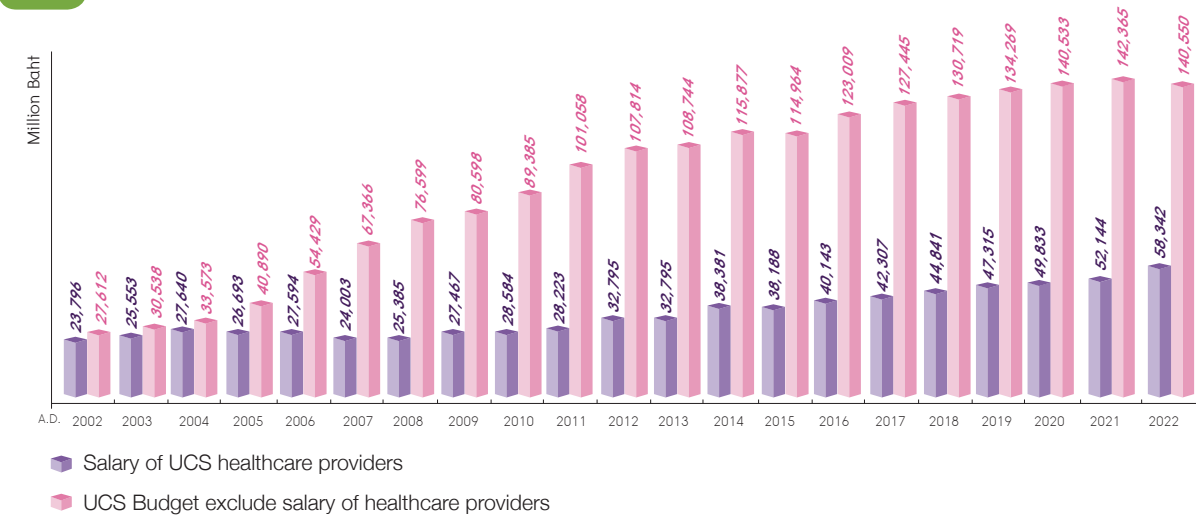
Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:

1. *The Fund received additional appropriations in 2003-2006 in the amount of 5,473.46 million baht, 5,000 million baht, 3,845.33 million baht, 4,993.33 million baht, and 14,761.83 million baht respectively. Moreover, during 2017-2018, the cabinet approved a central reserve fund for emergency situations, or a necessity reserve, to compensate public health services of the Ministry of Public Health in the amount of 3,979.41 million baht (excluding salary 1,000 million baht), and 4,186.13 million baht (excluding medical compensation 1,000 million baht) respectively.*
2. *The FY 2020 did not include central budget: expense reserved for emergency or Corona virus-19 (COVID – 19) in the amount of 2,282.088 million baht.*
3. *The FY 2021 excluding 2021 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 30,348.348 million baht*
4. *The FY 2022 excluding the 2021 COVID-19 Governmental Loans Act, Round 5 (from the Government Loans Act 2021) and 2022 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 114,177.778 million baht*

Figure

2-7 **UCS Budget in the Fiscal Year 2002-2022**



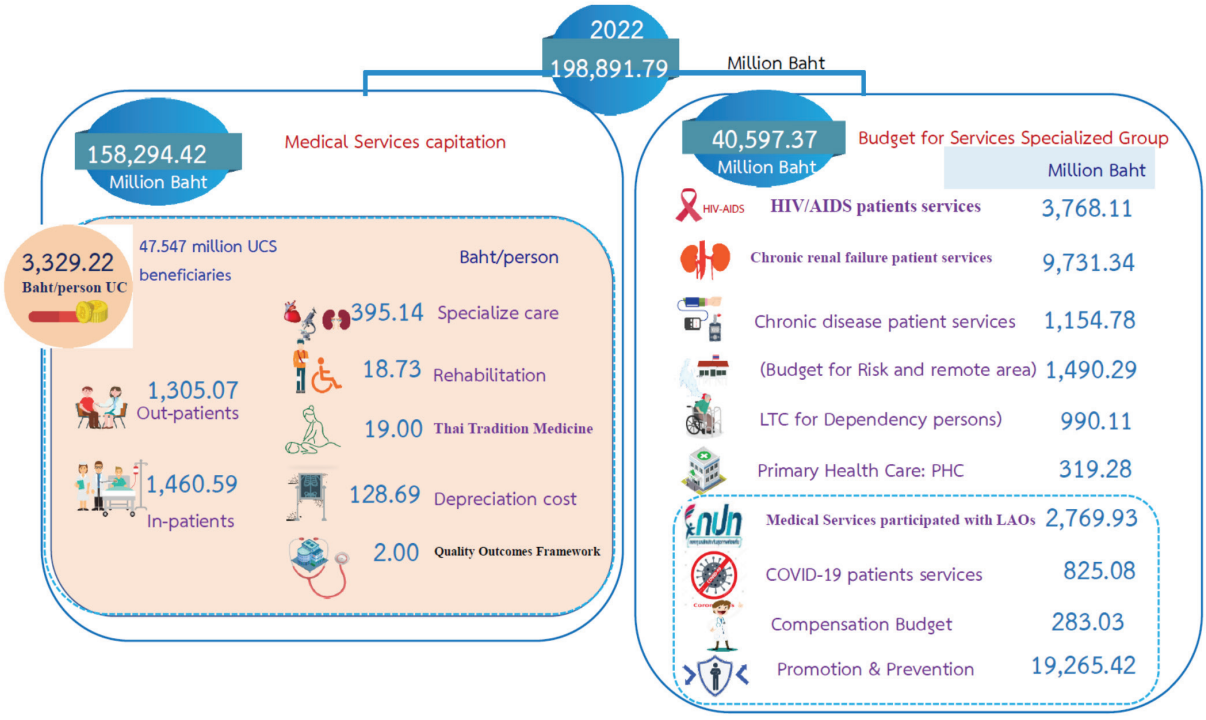
Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:

1. *The FY 2020 did not include the central budget: expenses reserved for emergency or Corona virus-19 (COVID – 19) in the amount of 2,282.088 million baht.*
2. *The FY 2021 excluding 2021 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 30,348.348 million baht*
3. *The FY 2022 excluding the 2021 COVID-19 Governmental Loans Act, Round 5 (from the Government Loans Act 2021) and 2022 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 114,177.778 million baht*

Figure

2-8 **Detail of UCS Budget in the Fiscal Year 2022**



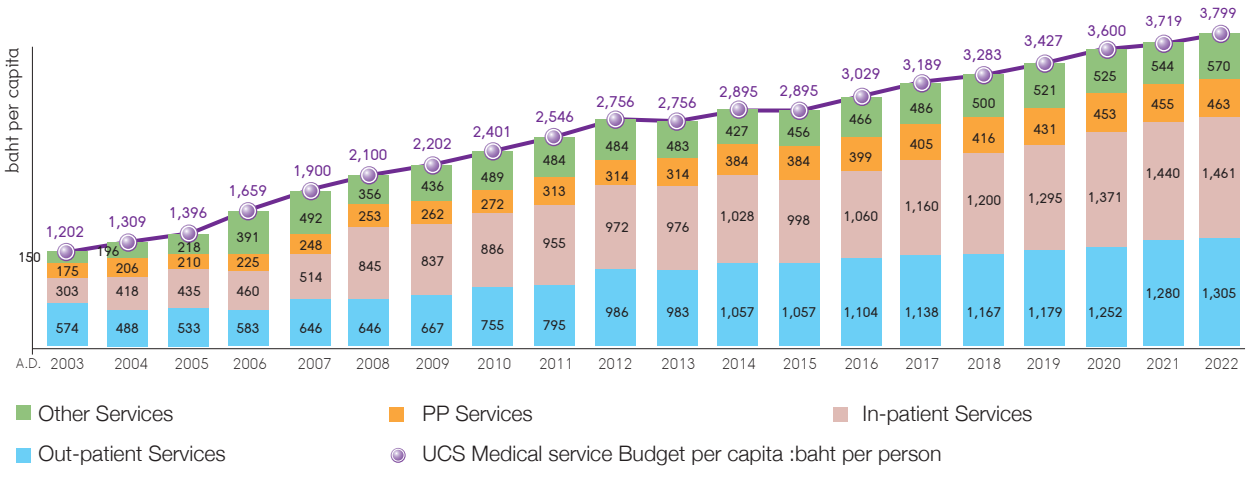
Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:

1. *Medical Services Capitation of 158,294.42 million baht inclusive of personnel salary under UC system totaled to 58,341.60 million baht for 47.547 million UC beneficiaries.*
2. *The 2022 FY did not receive the Governmental Loans Act, Round 5 (from the Governmental Loans Act '21) and Governmental Loans Act, Rounds 1-4 2022 (from Governmental Loans Acts'21) for management of COVID-19 pandemic and other related services at a total of 114,177.78 million baht.*
3. *The 2022 year has seen 4 new items outside of the medical capitation services consisting of 1. Public health services for COVID-2019 cases, 2. Health promotion and disease prevention services, 3. Public health services in coordination with LAOs,*
4. *4. Initial subsidy for beneficiaries and services providers*

Figure

2-9 UCS Medical Service Budget per capita in the Fiscal Year 2003-2022



Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:

1. *Other services except for in-patient services, out-patient services, prevention, and promotion services such as specific services, rehabilitation services, Thai traditional medicine services, depreciation (investment budget), preliminary aid to providers, and additional expense according to criteria and quality of services.*
2. *As per the 2022's declaration each beneficiary received 463.44 baht as the health promotion and disease revention fund while 5.95 baht was allotted as initial subsidy for beneficiary and providers; both the items have been assigned as outside of medical capitation payment system but the figure will present the figures as part of the capitation payment at 3,798.61 baht per beneficiary totaling to 47.547 million beneficiaries.*
3. *As per the 2022's declaration, the capitation payment for each beneficiary was 3,329.22 baht for a total of 47.547 million beneficiaries.*

Table

2-5 Number of UCS Budget classified by medical services categories in the Fiscal Year 2018-2022

million baht

Medical services categories	2018	2019	2020	2021	2022	2022* Original
1. Medical Services Capitation	160,205.75	166,445.23	173,750.40	177,198.99	158,294.42	180,612.81
1.1 Medical Services exclude salary of UCS healthcare providers	115,365.21	119,130.27	123,917.82	125,055.02	99,952.83	122,271.21
1.2 Salary of UCS healthcare providers	44,840.54	47,314.96	49,832.58	52,143.98	58,341.60	58,341.60
2. HIV/AIDS patients health service package	3,218.25	3,046.32	3,343.54	3,676.35	3,768.11	3,768.11
3. Chronic renal failure patients health service package	8,165.61	8,281.80	9,375.41	9,720.28	9,731.34	9,731.34
4. Chronic disease control, DM-HT patients, psychiatric patients in the community	1,080.70	1,135.03	1,135.03	1,163.21	1,154.78	1,154.78
5. Additional Budget to improve efficiency in remote/hardship areas/Southern border areas	1,490.29	1,490.29	1,490.29	1,490.29	1,490.29	1,490.29

Table

2-5 Number of UCS Budget classified by medical services categories in the Fiscal Year 2018-2022

million baht

Medical services categories	2018	2019	2020	2021	2022	2022* Original
6. Long Term Care for dependent elderly	1,159.20	916.80	975.69	838.03	990.11	990.11
7. Additional Budget to services of Primary Health Care: PHC	240.00	268.64	268.64	421.64	319.28	319.28
8. MMR Vaccine compensation	-	-	27.01	-	-	-
9. Medical Services participated with LAOs	-	-	-	-	2,769.93	-
10. COVID-19 patients health service	-	-	-	-	825.08	825.08
11. Initial Subsidy for beneficiaries and providers	-	-	-	-	283.03	-
12. Health Promotion and Disease Prevention	-	-	-	-	19,265.42	-
Total	175,559.80	181,584.09	190,366.00	194,508.79	198,891.79	198,891.79
UCS Budget exclude salary of healthcare providers (Unit: Million baht)	**130,719.26**	**134,269.13**	**140,533.42**	**142,364.81**	**140,550.19**	**140,550.19**
Medical Services per capita (Unit: Baht/ UC beneficiary)	**3,283.11**	**3,426.56**	**3,600.00**	**3,719.23**	**3,329.22**	**3,798.62**
UC Population (Unit: Million individuals)	**48.797**	**48.575**	**48.264**	**47.644**	**47.547**	**47.547**

Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:

1. *The FY 2020 did not include central budget: expense reserved for emergency or Corona virus-19 (COVID – 19) in the amount of 2,282.088 million baht.*
2. *The FY 2021 excluding 2021 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 30,348.348 million baht*
3. *The FY 2022 excluding the 2021 COVID-19 Governmental Loans Act, Round 5 (from the Government Loans Act 2021) and 2022 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 114,177.778 million baht*
4. *The 2022 year had seen 4 new items outside of the medical capitation services consisting of 1. Public health services for COVID-2019 cases, 2. Health promotion and disease prevention services, 3. Public health services in coordination with LAOs, 4. Initial subsidy for beneficiaries and services providers*
5. *The FY 2022 regarding the 3 items categorized into the medical capitation group consists of 1. Health promotion and disease prevention services, 2. Public health services in coordination with the LAOs, 3. Initial subsidy for beneficiaries and providers; together these totaled to 3,798.51 baht per beneficiary for 47.547 million beneficiaries, or a sum of 180,612.81 million baht.*

Table 2-6

Number of UCS Budget per capita classified by Type of medical services in the Fiscal Year 2018-2022

Unit: baht/person

Type of medical services	2018	2019	2020	2021	2022	2022* Original
1. Outpatient services	1,167.41	1,179.34	1,251.68	1,280.01	1,305.07	1,305.07
2. Inpatient services	1,199.72	1,294.94	1,371.07	1,440.03	1,460.59	1,460.59
3. Specialize care, High-cost services	337.08	357.50	359.24	372.97	395.14	395.14
4. Health Promotion and Disease Prevention for all scheme	415.55	431.43	452.60	455.39	-	463.44
5. Rehabilitation Medical services	16.13	16.13	17.43	18.40	18.73	18.73
6. Thai Traditional Medicines	11.61	11.61	14.80	17.90	19.00	19.00
7. Depreciation cost for building and medical investment	128.69	128.69	128.69	128.69	128.69	128.69
8. Compensation Budget to Consumers and Providers who lose from received / provided health services	4.92	4.92	2.49	3.84	-	5.95
9. Additional budget for quality of care	2.00	2.00	2.00	2.00	2.00	2.00
Total	**3,283.11**	**3,426.56**	**3,600.00**	**3,719.23**	**3,329.22**	**3,798.61**
UC Population (Unit: million individuals)	**48.797**	**48.575**	**48.264**	**47.644**	**47.547**	**47.547**

Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund*

Notes:
1. *The 2022 year had seen 4 new items outside of the medical capitation services consisting of 1) Public health services for COVID-2019 cases, 2) Health promotion and disease prevention services, 3) Public health services in coordination with LAOs, 4) Initial subsidy for beneficiaries and services providers*
2. *The FY 2022 regarding the 2 items categorized into the medical capitation group consists of 1) Health promotion and disease prevention services (including public health services in coordination with LAOs) and 2) Initial subsidy for beneficiaries and providers; together these totaled to 3,798.61 baht per beneficiary for 47.547 million beneficiaries.*
3. *The 4th service item is financially covered for all Thai citizens*

Disbursement of UCS Budget

In the FY 2021, the disbursement including obligation of the UCS service units from the National Health Security Fund was 130,480.52 million baht, or 92.84 percent (total budget of 140,550.194 million baht excluding public sector's personnel salaries of 58,341.98 million baht). The expenses were lower than the allocated funds by 10,069.652 million baht since the National Health Security Fund had permitted the usage of funds from the high (low) income for utilization in public health services, public health services promotion and Corona Virus 2019 treatment (Figure 2-10)

Figure 2-10

UCS Budget disbursement in the Fiscal Year 2022

Detail of UCS Budget	UCS Budget MB	Disbursement include obligation MB	Balance MB	% of Disbursement include obligation
Medical Services capitation	104,905.799	94,140.465	10,765.334	89.74
HIV/AIDS patients	3,768.109	3,918.853	-150.744	104.00
Chronic renal Failure patients	9,731.340	12,384.154	-2,652.814	127.26
Chronic disease patients	1,154.780	921.452	233.328	79.79
Budget for Risk (& remote area)	1,490.288	1,490.288	0.000	100.00
LTC for Dependency persons	990.108	1,208.040	-217.932	122.01
Primary Care Cluster: PCC services	319.280	338.390	-19.110	105.99
Medical Services participate LAOs	2,769.9300	2,335.276	434.654	84.31
COVID-19 patients services	825.0800	825.079	0.001	100.00
Compensation Budget	283.0300	424.325	-141.295	149.92
Promotion & Prevention	14,312.4508	12,494.222	1,818.229	87.30
Total	140,550.194	130,480.542	10,069.652	92.84

Source: 1) *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund in the Fiscal Year 2022*

2) *Financial Report of UCS Budget in the Fiscal Year 2022, NHSO, Data on 30 September 2022*

Notes:

1. *Medical Services Capitation budget of 158,294.42 million baht includes UC service providers' salary of 58,341.595 million baht for a total of 47.547 million beneficiaries.*
2. *The FY 2022 excluding the 2021 COVID-19 Governmental Loans Act, Round 5 (from the Government Loans Act 2021) and 2022 COVID-19 Governmental Loans Act, Rounds 1-4, for management of COVID-19 pandemic and other related services at a total of 114,177.778 million baht*
3. *With expenditure of 10,069.652 million baht lower than the allocated budget, the National Health Security Fund had permitted the usage of funds from the high (low) income account for utilization in public health services, public health services promotion and Corona Virus 2019 treatment*
4. *For the FY 2020-2022 (March 1st, 2020 – December 30th, 2022), 33,650.436 million baht was allocated for COVID-19 management and relevant services.*
    1. *The FY 2020 was allocated a central budget for emergency payouts, or necessary payments regarding Corona Virus 2019 (COVID-19), of 2,282.088 million baht*
    2. *The NHSO committee had approved 1,020 million baht from the high (low) income account*
    3. *The FY 2021 had been assigned a total of 30,348.348 million baht from the COVID-19 Governmental Loans Act, Rounds 1-4; the NHSO had reimbursed the providers a total of 54,479.670 million baht with 20,829.234 million baht remaining (the NHSO was approved additional funds from the Governmental Loans Act, Round 4, to reimburse the service providers November 16th, 2021).*
    4. *The FY 2022 (October 1st, 2021 – September 30th, 2022) was allocated, from the Governmental Loans Act Round 5 FY 2021 (from Governmental Loans Act '20), a total of 20.829.234 million baht while another allocation from the Governmental Loans Act Rounds 1-4 (from Governmental Loans Act'21) was at 93,348.544 million baht and Round 5 (October 1st – December 30th, 2022) assigned 25,845.847 million baht totaling to 140,023.625 million baht*

4.2 NHSO Administrative Budget

The National Health Security Office's administrative budget is utilized to manage and execute the National Health Security Office's governmental action plan to achieve the specified objectives; the FY 2022 had seen a separate allocation of 1,284.99* million baht from the National Health Security Fund and categorized into general subsidy as per the development plans of UCS and research and development promotion plans.

The proportion of budget allocation for NHSO management from 2018-2022 can be viewed in Table 2-7

Table 2-7 **Number and percentage of NHSO Administrative Budget to UCS Budget in Fiscal Year 2018-2022**

million baht

Budget	2018	2019	2020	2021	2022
UCS Budget	175,559.80	181,584.09	190,366.00	194,508.79	198,891.79
NHSO Administrative Budget	1,376.87	1,344.81	1,411.90	1,377.69	1,284.99*
% of NHSO Administrative Budget to UCS Budget	0.78	0.74	0.74	0.71	0.65

Source: *Administration Unit, NHSO*

Note: **2022's the administrative budget of 1,284.99 million baht has not been added to the central fund while 54.2544 million baht was used to reimburse and alleviate individuals suffering from COVID-19 pandemic totaling to 1,339.2436 million baht (0.67 percent of the NHSO fund)*

5. Targets and Outputs according to the budge allocated

The targets and outputs of medical services and public healthcare for UCS beneficiaries as per the budget allocated in the 2022 fiscal year (Table 2-8 and Appendix Table 5-5)

Table **2-8** **Targets and Outputs according to the budget allocated categorized by service items in the Fiscal Year 2022**

Service items: unit source (note)	Targets	Outputs	% of outputs to targets
1. Services under medical capitation			
1.1 Targeted Population			
- UHC Population: persons[1]	66,210,000	66,983,983	101.17
- UC Scheme Population: persons[1]	47,547,000	47,462,723	99.82
1.2 Outpatient Services			
- OP Visit: visits[2]	174,972,960	167,372,891	95.66
- Utilization Rate: visits/person/year	3.680	3.531	95.95

Table

2-8 Targets and Outputs according to the budget allocated categorized by service items in the Fiscal Year 2022

Service items: unit source (note)	Targets	Outputs	% of outputs to targets
1.3 Inpatient Services			
- IP Visit: visits [2]	6,389,277	6,201,940	97.07
- Utilization Rate: visits/person/year	0.134	0.131	97.76
1.4 Specialized Care/High-cost Services			
1.4.1 Accident and Emergency/Referral			
1) Accident and Emergency Services across to non-registered provinces or Services outside registered hospitals in disabled people: visits[3]	1,546,795	3,801,867 visits 2,116,962 persons	245.79
2) Referred cases with transportation cost: vi sits [3]	269,818	307,745 visits 284,273 persons	114.05
1.4.2 Confidence in Quality-of-Care improvement			
1) STEMI Fast Track, Thrombolytic therapy for ST-elevated myocardial infarction patients: persons [3]	4,549	3,406 persons (1) 3,501 times	74.87
2) Stroke Fast Track, Thrombolytic therapy for Cerebral infarction patients: persons [3]	7,072	6,871 persons 6,907 times	97.16
3) Chemotherapy or Hormones or Radiation treatment in Cancer patients: persons [3]	77,977	94,154 persons 762,343 times	120.75
4) Cataract lens replacement Surgery: visits [3]	120,000	122,504	102.09
5) Orthodontics and Speech rehabilitation for cleft lip and cleft palate patients: persons [1]	1,566	858 (1) (Ortho 162 / Speech 696	54.79
6) Health services after hours in cases non-emergency or general illness patients: visits [1]	222,340	254,525	114.48
1.4.3 Reducing the financial risk of healthcare units			
1) Instrument and artificial organs in treatment: pieces [1, 5]	2,715,545	3,577,448	131.74
2) Hyperbaric Oxygen Therapy: persons [3]	11	22 persons / 25 times 240 hours	200.00
3) Corneal transplantation, including supply, storage, and treatment: eyes [4]	591	426	72.08
4) Transplantation			
- Liver transplant and Immunosuppressive drug in children and Liver transplant in Cirrhosis patients: persons [1]	403	520 (75 transplants, 445 immuno-suppressants)	129.03
- Heart transplant and Immunosuppressive drug: persons [1]	117	135 (15 transplants, 120 immuno-suppressants)	115.38
- (Hematopoietic stem cell transplantation (HSCT): persons [1]	110	124 Allogeneic MRD: 26 Allogeneic MUD: 16 Autologous: 82	112.73
1.4.4 Services required closed monitoring			

Table

2-8 Targets and Outputs according to the budget allocated categorized by service items in the Fiscal Year 2022

Service items: unit source (note)	Targets	Outputs	% of outputs to targets
1) Methadone Maintenance Therapy (MMT): persons [3]	12,122	9,623 persons 70,702 times	79.38
2) Essential, High-costs medicines and Orphan drugs			
- Essential, High-costs drugs, E(2) category drug list of the National List of Essential Medicine: persons [1]	60,764	60,859	100.16
- Orphan drugs and Antidotes: persons [1]	7,426	7,534	101.45
1.4.5 Disease Management or Vertical Programs)			
1) Blood transfusion and iron-chelating therapy for Transfusion Dependent Thalassemia patients: persons[6]	12,734	11,138 persons 69,115 times	87.47
2) Tuberculosis patients Care: persons [7]	91,158	76,423 persons 283,994 times	83.84
3) Active Case finding of TB in prisoners and household contacts by Chest X-Ray [7 (2)]	1,394,000	1,459,490	104.70
4) Palliative Care: persons [3]	20,135	51,441	255.48
1.5 Health Promotion and Disease Prevention Services			
- Influenza Vaccines for targeted population: persons[8]	4,200,000	3,936,739	93.73
- Rotavirus Vaccines for babies 2, 4 and 6 months: persons[3]	671,353	712,358	106.11
1.6 Rehabilitation Services			
1) Registered disables: persons [1]	1,285,208	1,292,496	100.57
2) Assisted instrument for disables: persons [3]	35,088	30,003	85.51
3) (Rehabilitation services: visits [3, 4]	3,606,358	3,029,448	84.00
1.7 Thai Traditional Medicine Services			
- Traditional Thai herbal massage: visits [3]	3,260,496	3,081,637	94.51
- Postpartum care: persons [3]	60,864	41,763 [(1)]	68.62
- Herbal medicine prescriptions of the National List of Essential Medicine: visits [3]	10,597,780	12,121,607	114.38
- Acupuncture for new post-Strokes: persons [4]	19,150	2,169 persons [(1)] 12,664 times	11.33
1.8 Liability compensation for patients and healthcare providers			
- Liability compensation for patient: persons [9]	1,108	1,118	100.90
- Liability compensation for healthcare providers: persons [9]	549	11,165	2,033.70
2. Services for specialized groups			
2.1 Antiretroviral Therapy for HIV/AIDS patients: persons [10]	279,332	297,566	106.53
2.2 HIV/AIDS prevention for at-risk population: persons [1, 10, 11]	154,659	198,199	128.15
2.3 Renal Replacement Therapy: CAPD, APD, HD, KT, KTI for Chronic renal failure: persons [12]	67,200	82,463	122.71
2.4 Secondary prevention for diabetic and hypertension patients: persons [3]	3,706,400	4,156,119	112.13
2.5 Community care according to individual care plan for chronic psychiatric patients: persons [1]	10,536	10,723	101.77
2.6 Compensation for remote and hardship areas and Southern border provinces: healthcare units [1]	207	225	108.70

Table 2-8

Targets and Outputs according to the budget allocated categorized by service items in the Fiscal Year 2022

Service items: unit source (note)	Targets	Outputs	% of outputs to targets
2.7 Long Term Care according to individual care plan for dependency persons in all schemes and all age groups: persons [13]	165,018	201,291	121.98
2.8 Services of Primary Health Care by Primary care cluster and new normal services: visits [14]	1,729,000	1,745,633	100.96

Source [1] *Source: Fund Management Unit, NHSO. Data on 30 September 2022*

[2] *Data of Outpatients and Inpatients services, UC Scheme, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed by Policy Advocacy Unit, NHSO. By 1) Data for OP services, from OP 43 files and OP E-Claim, on 1 December 2022, and 2) Data for IP services from IP E-claim, on 10 March 2023*

[3] *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022*

[4] *Fund Management Unit, NHSO, Analyzed by Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022*

[5] *E-Claim Review and Monitoring Web Report, Fund Management Unit, NHSO. Data on 30 September 2021*

[6] *Report for National Perinatal Registry Portal System, Primary Care Commissioning Cluster, NHSO. Data on 30 September 2022*

[7] *TB Web Report, Fund Management Unit, NHSO. Data on 30 September 2022*

[8] *NHSO Influenza Vaccination Summary, Monitoring and Evaluation Cluster, NHSO. Data on 1 May 2022-30 September 2022, Campaign period*

[9] *People Engagement and Entitlements Protection Cluster, NHSO. Data on 30 September 2022*

[10] *National AIDS Program, Fund Management Unit, NHSO. Data on 30 September 2022*

[11] *National AIDS Program Plus, Fund Management Unit, NHSO. Data on 30 September 2022*

[12] *Chronic Kidney Disease: CKD Reports, Fund Management Unit, NHSO. Data on 30 September 2022*

13 *Community Care Commissioning Cluster, NHSO. Data on 30 September 2022*

14 *Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022*

Notes: *(1) Performance was lower than target due to COVID-19 crisis as the NHSO, MoPH and service providers encouraging Social Distancing to prevent the risk of infecting patients or visitors.*

(2) Intensive search for Tuberculosis active cases amongst 7 high-risk groups by Chest X-Ray consisting of 1. Public health officers, 2. 65 years or older with comorbidities, 3. Migrant labours, 4. Diabetic Mellitus patients (DM with HbA1C>= 7), 5. Household contact, 6. HIV positive individuals, 7. Prisoners

6. Results of Universal Coverage Scheme

6.1 Health Service Utilization under medical capitation

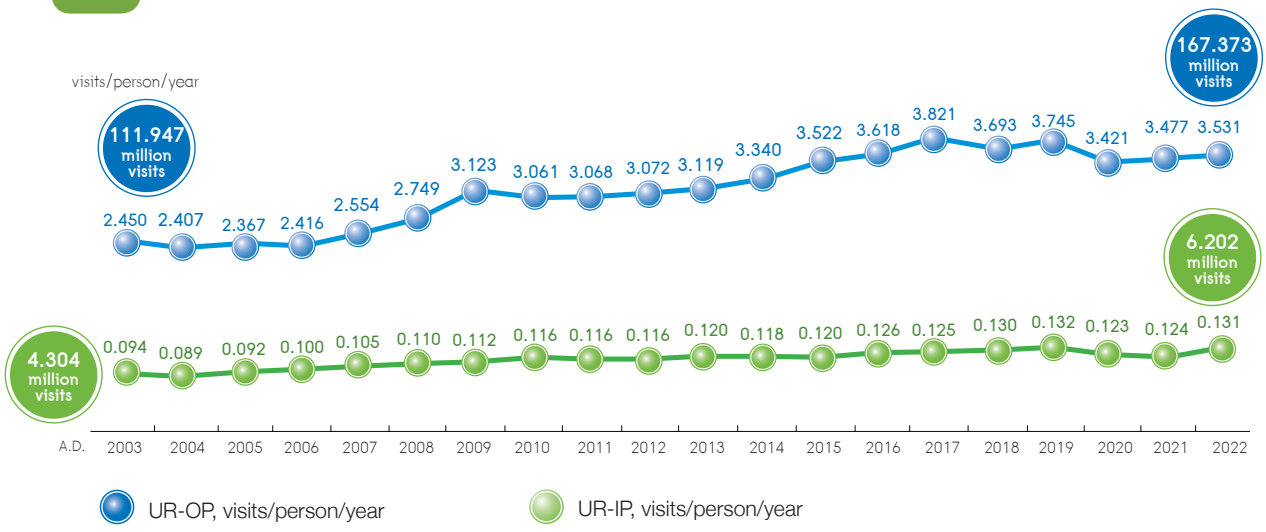
6.1.0 Outpatient and Inpatient Services

The **outpatient** visits had increased from 111.947 million visits in 2003 to 167.373 million visits in 2022 fiscal year or tabulated as 3.531 visits per person per year, which is an increase from 2.450 visits per person per year in 2003.

Similarly, **in-patient's** utilization increased from 4.304 million admissions in 2003 to 6.202 million admissions in 2021 while the rate increased from 0.094 admissions per individual per year in 2003 to 0.131 admissions per individual per year in 2022 (Figure 2-11) (Table 2-9).

Figure

2-11 Number of Visits and Utilization rate of Outpatients and Inpatients under the UC scheme in the Fiscal Year 2003-2022



Source: *Data of Outpatient and Inpatient services, UC Scheme, Monitoring and Evaluation Cluster, NHSO.*
Data as of September 30th, 2022, Analyzed by Policy Advocacy Unit, NHSO. By 1)
Data for OP services, from OP 43 files and OP E-Claim, on December 1st, 2022, and 2)
Data for IP services from IP E-claim, on March 10th, 2023

Notes: 1. *UCS out-patient service utilization rate = Reported year's total visit of UCS out-patients*

$$\frac{\text{Reported year's total visit of UCS out-patients}}{\text{Average number of UCS citizens in the 12 months of reported year}}$$

2. *UCS in-patient service utilization rate = Reported year's total admissions of UCS in-patients*

$$\frac{\text{Reported year's total admissions of UCS in-patients}}{\text{Average number of UCS citizens in the 12 months of reported year}}$$

3. *In the 2021 FY, the amount and rate of outpatients and inpatients visits had been retabulated using the full year's database of outpatients and inpatients and evaluated on December 1st , 2022 and December 26th, 2022, respectively.*

Table

2-9 Number of Visits and Utilization rate of Outpatients and Inpatients under Universal Coverage Scheme in the Year 2003-2022

Fiscal Year	OP Services (visits)	UR-OP (visits/person/year)	IP Services (visits)	UR-IP (visits/person/year)	UC Population (persons)
2003	111,947,496	2.450	4,304,010	0.094	45,691,203
2004	112,494,014	2.407	4,162,644	0.089	46,732,232
2005	111,642,613	2.367	4,337,518	0.092	47,163,799
2006	114,765,934	2.416	4,729,443	0.100	47,508,791
2009	147,602,998	3.123	5,292,133	0.112	47,264,407
2010	146,020,982	3.061	5,551,084	0.116	47,710,902
2011	146,302,145	3.068	5,529,990	0.116	47,685,565
2012	148,807,629	3.072	5,620,440	0.116	48,441,999
2013	151,864,201	3.119	5,822,403	0.120	48,682,727
2014	161,716,305	3.340	5,735,874	0.118	48,411,833
2015	170,341,833	3.522	5,779,678	0.120	48,362,555

Table 2-9

Number of Visits and Utilization rate of Outpatients and Inpatients under Universal Coverage Scheme in the Year 2003-2022

Fiscal Year	OP Services (visits)	UR-OP (visits/person/year)	IP Services (visits)	UR-IP (visits/person/year)	UC Population (persons)
2016	174,627,554	3.618	6,063,473	0.126	48,268,385
2017	184,280,767	3.821	6,033,371	0.125	48,226,078
2018	177,274,523	3.693	6,218,540	0.130	48,004,070
2019	178,447,406	3.745	6,299,512	0.132	47,649,465
2020	162,565,329	3.421	5,853,006	0.123	47,521,215
2021	163,583,514 [3]	3.477 [3]	5,811,123 [3]	0.124 [3]	47,048,213
2022	167,372,891	3.531	6,201,940	0.131	47,405,538

Source: *Data of Outpatient and Inpatient services, UC Scheme, Monitoring and Evaluation Cluster, NHSO. Data at 30 September 2022, Analyzed by Policy Advocacy Unit, NHSO. By 1) Data for OP services, from OP 43 files and OP E-Claim, on 1 December 2022, and 2) Data for IP services from IP E-claim, on 10 March 2023*

Notes:

1. *UCS out-patient service utilization rate = Reported year's total visit of UCS out-patients*

   Average number of UCS citizens in the 12 months of reported year

2. *UCS in-patient service utilization rate = Reported year's total admissions of UCS in-patients*

   Average number of UCS citizens in the 12 months of reported year

3. *In the 2021 FY, the amount and rate of outpatients and inpatients visits had been retabulated using the full year's database of outpatients and inpatients and evaluated on 1st December, 2022 and 26th December, 2022, respectively.*

Compliance Rate

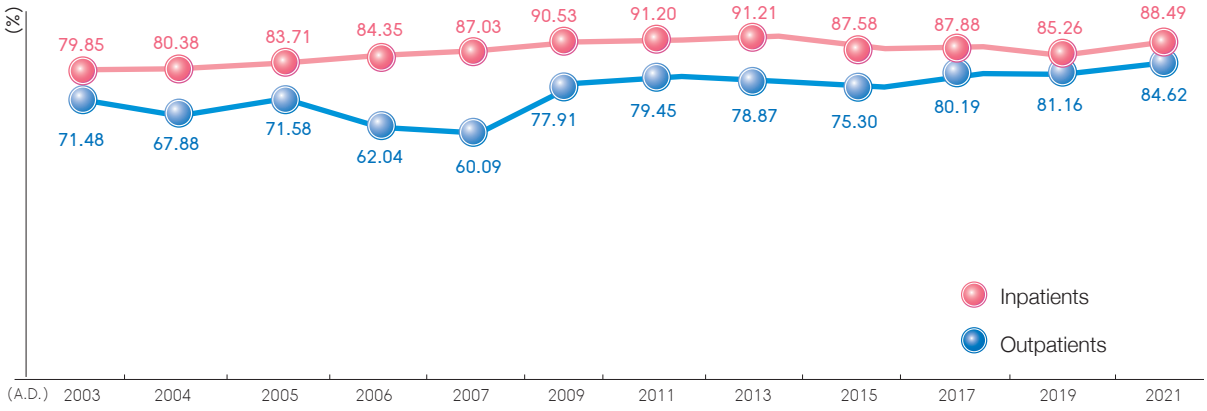
Citing from Health and Welfare Survey 2021 report of the National Statistical Office focusing on healthcare behavior of UCS beneficiaries, in regards to outpatients' services, it has been discovered that 63.72% of out-patients elicited health services from a public hospital, 19.49% had purchased medications themselves while 9.92 percent elicited services from a private healthcare setting; for inpatients' services, 88.61% in-patients elicited healthcare from public settings and 11.40% elicited services from private healthcare setting. For health promotion and disease prevention services, 59.96 percent had elicited services from public healthcare settings, 35.40 percent received care at home/ in communities/ at mobile service units and 4.06 percent visited private healthcare settings (Table 2-10).

In regards to the Compliance Rate of eliciting health services from service units in 2021, it has been found that 84.62% were out-patients while 88.49% were in-patients (Figure 2-12).

However, the main reasons for not exercising the rights to UCS by out-patients were long-waiting time followed by inconvenience to visit during business hours and minor injuries; simultaneously, for in-patient services, the causes were accident and emergency followed by long waiting time and benefits not covered by the benefit scheme while health promotion and disease prevention services were not used similarly due to long-waiting time followed by benefits not covered by the benefit scheme and inconvenience to visit during business hours (Table 2-11).

Figure

2-12 **Compliance Rate of Outpatients services and Inpatients services under the UC scheme in the Year 2003–2021**



Source: *Health and Welfare Survey in the Year 2003-2021, National Statistical Office, analyzed by International Health Policy Program: IHPP, MOPH*

Notes:
1. *As of 2007, the National Statistical Office has conducted the Health and Welfare Survey every two years.*
2. *Out-patients: calculated based on respondents having had illness one month prior to the survey and in-patients: calculated based on respondents having had illness one year prior to the survey and had utilized the National Health Insurance at point of health services*

Table 2-10

Percentage of Health care-seeking behavior of Outpatients services, Inpatients services, and Promotion and Prevention services under the UC scheme in the Years 2017-2021

Unit:Percentage

Seeking behavior	Fiscal Year 2017			Fiscal Year 2019			Fiscal Year 2021		
	OP	IP	PP	OP	IP	PP	OP	IP	PP
1. No treatment	6.19	-	-	7.95	-	-	6.34	-	-
2. Buying medication for self-consumption: Modern medicine, Traditional medicine	22.33	-	0.19	20.52	-	-	19.49	-	0.09
3. Thai Traditional medical care	0.30	-	-	0.10	-	-	0.18	-	-
4. Visit to Government Healthcare units	57.08	90.60	60.00	58.33	88.61	62.27	63.72	88.61	59.96
5. Visit to Private Healthcare units	13.78	9.37	6.30	12.94	11.40	5.25	9.92	11.40	4.06
6. Home care/ Community care/Mobile service care	-	-	32.27	-	-	30.22	0.06	-	35.40
7. Others	0.32	0.03	1.24	0.17	-	2.26	0.28	-	0.49
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: *Health and Welfare Survey in the Year 2017-2021 National Statistical Office, analyzed by International Health Policy Program: IHPP, MOPH*

Notes: *1. Out-patients: calculated based on respondents having had illness one month prior to the survey.*

2. In-patients: calculated based on respondents having had illness one year prior to the survey.

3. Health Promotion and Disease Prevention: calculated based on respondents having received health promotion 12 months prior to survey

Table 2-11

Percentage of reasons to not applying for UCS Benefit when accessing Healthcare units of OP services, IP services, and PP services in the Year 2015-2021

Unit:Percentage

Reasons to not applying for UCS Benefit	2015	2017	2019	2021
OP services				
1. Long waiting time	39.21	41.85	44.49	41.12
2. Inconvenience to visit during working time	11.54	14.40	10.48	11.54
3. Mild illness	12.78	10.52	8.63	11.52
4. Low confidence in the quality of drugs	10.89	9.58	9.64	8.65
5. Inaccurate diagnosis/untreatable	6.12	7.37	6.06	5.22
IP services				
1. Accident-Emergency	15.13	20.08	17.44	30.38
2. Long waiting time	23.68	34.80	25.04	22.83
3. Benefit package not covered services	16.53	12.46	17.65	12.54
4. Received services outside the registered area	13.06	5.37	9.06	9.80
5. Inaccurate diagnosis/untreatable	11.68	7.98	5.69	1.55
6. Others	6.06	9.13	13.49	11.36
PP services				
1. Long waiting time	29.86	29.62	41.64	41.84
2. Benefit package not covered services	20.93	28.39	29.48	16.41
3. Inconvenience to visit during working time	10.79	9.49	5.71	15.93
4. Too far/Inconvenience to travel	4.28	5.82	3.65	10.03
5. Inaccurate diagnosis/untreatable	5.17	4.20	2.32	0.90
6.Others	21.77	7.09	2.40	8.78

Source: *Health and Welfare Survey in the Year 2015-2021, National Statistical Office, analyzed by International Health Policy Program: IHPP, MOPH*

Notes: *Calculated from patients citing reasons for not using UCS services*

6.1.1 Outpatient Services

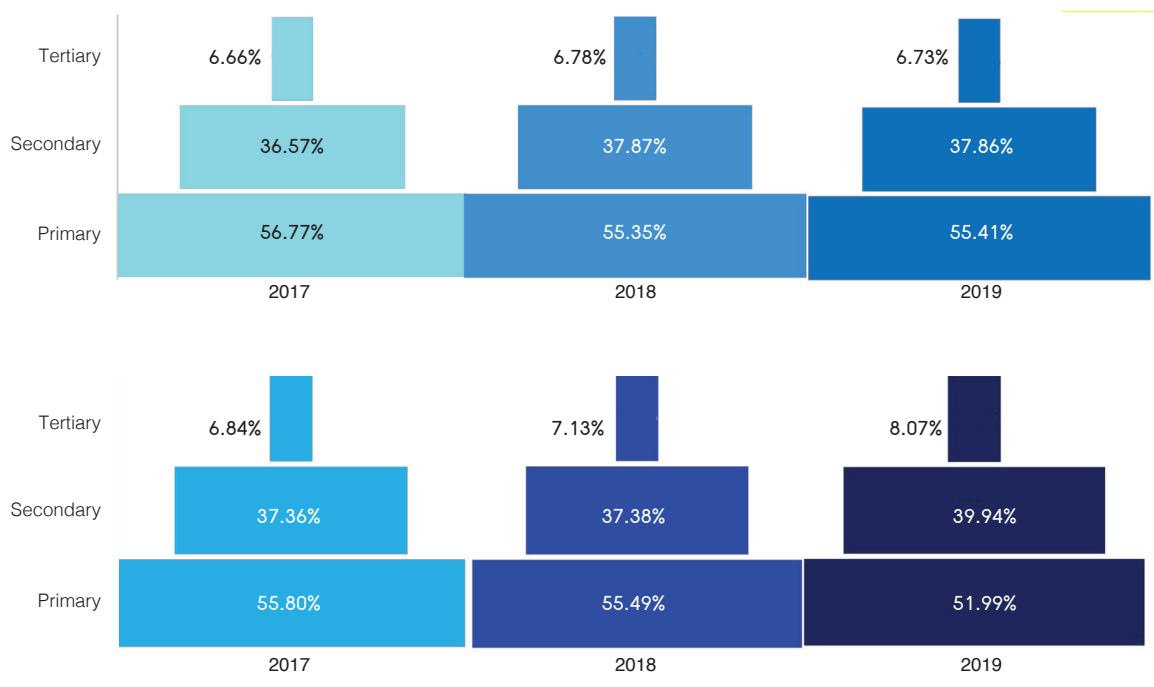
Outpatient services had increased from 162.565 million visits in 2020, 3.421 visits per beneficiary per year, to 136.583 million visits un 2021 being 3.477 visits per beneficiary per year and had finally increased to 167.373 million visits in 2022 translating to 3.531 visits per beneficiary per year (Data source of visits and rate of outpatients and inpatients visits of NHSO in 2003 FY to 2022 FY for Section 2.6.1.0 as seen in Figure 2-11 and Table 2-9)

Ranking/Disease Groups presented by UC Outpatients as tabulated from the number of outpatients visits according to the Principal Diagnosis (PDx) exclusive of health services as per the ICD-10 code Z and Thai medicine, the 2022 fiscal year shows a total of 60.982 million outpatient visits, or 36.43 percent, of the total 167.373 million visits for treatment of the top 20 diseases. The top 5 visits were made for Need for immunization against COVID-19 (U119) at 22.589 million visits, Essential Primary Hypertension (I10) at 12.483 million visits, non-insulin-dependent diabetes mellitus (E11) at 7.819 million visits and Acute nasopharyngitis (common cold) (J100) at 5.023 million visits and Dyspepsia (K30) at 1.943 million visits (Table 2-12).

UC Outpatients services and Health Promotion and Disease Prevention services for all schemes classified according to level healthcare units has revealed that in 2017-2021, there were no significant differences in the usage of various health services centers.

55.35-56.77 percent had utilized services at Primary Health Centers, 36.57-37.87 percent elicited services at Secondary Health Centers, 6.66-7.13 percent at Tertiary Health Centers. In 2022, services at Primary Health Centers had decreased to 51.99 percent while there were increases in Secondary and Tertiary Health Centers at 39.94 percent and 8.07 percent. However, for the 2021-2022 years, Primary Health Centers' services also included the New Normal, or self-service, healthcare services such as receiving drugs at pharmacies, receiving medications through post, clinic services at nursing and midwifery clinics, telemedicine (Figure 2-13).

Figure 2-13 **Proportion of OP visits under UC scheme and PP visits in all of schemes classified by level of healthcare units in the Fiscal Year 2017-2022**



Source: *(1) Data of Outpatient services, under UC Scheme, from OP 43 files and OP E-Claim (2) Data of Health Promotion and Disease Prevention services, from PP 43 files, in all Scheme, from OP 43 files, Fund Management Unit, NHSO. Data at 30 September 2022, Analyzed on 15 March 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes:

1. *Primary Health Center consist of Sub-district Health Promotion Center, Community Health Centers, LAOs Health Centers, Private Clinics*
2. *Secondary Health Centers consist of Mid-Level Referral Hospital with 120 beds and more (M2), First-Level Referral Hospital with 60-120 beds (F1), First-Level Referral Hospital with 30-90 beds (F2), First-Level Referral Hospital with 10 beds (F3), Private hospitals*
3. *Tertiary Health Centers consist of Advance-Level Referral Hospital (A), Standard-Level Referral Hospital (S), Mid-Level Referral Hospital (M1), specializing hospitals, and medical schools*
4. *for the 2021-2022 years, Primary Health Centers' services also included the New Normal, or self-service, healthcare services such as receiving drugs at pharmacies, receiving medications through post, clinic services at nursing and midwifery clinics, telemedicine*
5. *Excluding 13th district of Bangkok*

Table

2-12 Top 20 Diseases of UCS Outpatient visits classified by Age-Groups in the Fiscal Year 2022

ICD10: principal Dx	OP-visit (visits)	<1 year	1-4 years	5-14 years	15-59 years	60-69 years	>=70 years
1. U119: Need for immunization against COVID-19, unspecified	22,588,688	231	2,215	4,252,673	14,241,676	2,446,224	1,645,669
2. I10: Essential (primary) hypertension	12,482,754	152	238	2,109	4,066,219	4,098,161	4,315,875
3. E119: Non-insulin-dependent diabetes mellitus, without complications	7,818,536	52	97	2,205	3,089,364	2,753,360	1,973,458
4. J00: Acute nasopharyngitis [common cold]	5,022,512	119,706	1,100,214	1,321,867	1,760,352	401,635	318,738
5. K30: Dyspepsia	1,942,902	2,105	26,497	137,094	1,028,187	399,227	349,792
6. N185: Chronic kidney disease, stage 5	1,735,802	4	139	1,847	822,971	550,261	360,580
7. R42: Dizziness and giddiness	1,310,634	121	1,280	24,790	576,365	328,923	379,155
8. U071: COVID-19, virus identified	1,255,339	12,506	81,778	226,330	706,639	130,556	97,530
9. B24: Unspecified human immunodeficiency virus [HIV] disease	780,886	80	580	4,188	700,193	65,055	10,790
10. K020: Caries limited to enamel	720,908	15,158	194,830	432,842	47,999	17,315	12,764
11. J028: Acute pharyngitis due to other specified organisms	652,318	5,316	42,830	119,234	362,551	71,476	50,911
12. K021: Caries of dentine	600,821	349	26,245	173,058	341,658	42,863	16,648
13. J459: Asthma, unspecified	568,850	401	38,077	97,065	246,499	106,360	80,448
14. J029: Acute pharyngitis, unspecified	552,016	6,279	59,959	118,638	276,134	53,812	37,194
15. M791: Myalgia	510,400	98	933	8,696	297,500	119,665	83,508
16. A099: Gastroenteritis and colitis of unspecified origin	498,616	17,454	64,641	75,371	226,953	56,372	57,825
17. R05: Cough	494,402	2,754	30,989	52,990	225,776	89,528	92,365
18. R509: Fever, unspecified	490,077	24,511	92,511	105,945	183,091	38,973	45,046
19. E785: Hyperlipidaemia, unspecified	487,692	3	9	142	215,380	173,007	99,151
20. E112: Non-insulin-dependent diabetes mellitus, with renal complications	467,977	-	-	34	111,580	165,087	191,276
Top 20 Diseases	**60,982,130**	**207,280**	**1,764,062**	**7,157,118**	**29,527,087**	**12,107,860**	**10,218,723**
% Top 20 Diseases	**36.43**	**11.54**	**25.61**	**43.24**	**37.77**	**34.82**	**35.01**
Total	**167,372,891**	**1,795,455**	**6,887,424**	**16,551,675**	**78,172,913**	**34,775,731**	**29,189,693**

Source: *Data of Outpatient services, UC Scheme, from OP 43 files and OP E-Claim, Fund Management Unit, NHSO. Data as of September 30th, 2022, Analyzed on February 8th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Note: *1. Calculated from several outpatient visits by Principal Diagnosis (PDx) exclude ICD-10 : Z00-Z99 and U50-U77*

2. Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.

6.1.2 Inpatient Services

The inpatient services in 2020 was 5.853 million stays with 0.123 stay per beneficiary per year while 2021 had seen a decrease to 5.811 million stays with 0.124 stay per beneficiary per year; however, there was an increase to 6.202 million stays with 0.131 stay per beneficiary per year in 2022 (Database of stays and rate of outpatients and inpatients services for NHSO beneficiaries in FY 2003-2022 for Section 2.6.1.0 as seen in Figure 2-11 and Table 2-9). The fiscal year of 2022 has seen the NHSO allocating additional funds for inpatients health services at a base rate of 8,350 baht per Adjusted Relative Weight (adj.RW) as per the conditions as stipulated by the subcommittee responsible for establishing operating rules and fund management under the UHC committee's direction in regards to instances where there are leftover funds. The leftover funds will be disbursed by the NHSO to health units according to the health services provided.

Ranking/Disease Groups presented by UC Inpatients was calculated based on the number of inpatient stays as per the Principal Diagnosis (PDx). The FY 2022 had seen 1.801 million stays, or 29.04 percent, of 6.2020 million stays by patients diagnosed with the Top 20 diseases of which the top 5 diseases were Other viral pneumonia (J128) at 332,054 stays, Acute pharyngitis due to other specified organisms (J028) causing 164,244 million stays, Gastroenteritis and colitis of unspecified origin (A099) at 129,461 million stays, Pneumonia, unspecified (J189), and Acute nasopharyngitis (common cold) (J00), respectively (Table 2-13)

Ranking/ Disease Groups of UC Inpatients and Inpatients, who died after admission was calculated based on the number of inpatient stays as per the Principal Diagnosis (PDx) and with status of being deceased. The FY 2022 had seen 63,602 deaths, or 44.43 percent, from 143,155 deaths from the Top 20 diseases of which the top 5 diseases were Other viral pneumonia (J128), Pneumonia, unspecified (J189), Congestive Heart Failure (I500), Urinary Tract infection, site not specified (N390), and Intracerebral Haemorrhage in hemisphere, subcortical (I610), respectively (Table 2-14).

Inferring from NHSO inpatients database calculated as per the Principal Diagnosis (PDx), it has been revealed that Top disease/ disease groups leading to inpatient stays and deaths during admission is Other viral pneumonia (J128) as per the disease classification code ICD10 of Thai Health Coding Center (THCC) and MoPH had set to use the code J128 for Other viral pneumonia in conjunction with code U017: COVID-19 as inpatient treatments.

Table

2-13 20 Diseases of UCS Inpatient visits classified by Age-Groups in the Fiscal Year 2022

ICD10: principal Dx	OP-visit (visits)	<1 year	1-4 years	5-14 years	15-59 years	60-69 years	>=70 years
1. J128: Other viral pneumonia	332,054	13,265	22,961	26,308	133,805	52,158	83,557
2. J028: Acute pharyngitis due to other specified organisms	164,244	5,146	9,510	21,567	96,163	15,684	16,174
3. A099: Gastroenteritis and colitis of unspecified origin	129,461	10,314	23,890	19,143	38,889	15,778	21,447
4. J189: Pneumonia, unspecified	115,606	7,653	23,773	6,897	24,348	17,389	35,546
5. J00: Acute nasopharyngitis [common cold]	111,566	5,735	9,863	17,521	59,713	9,702	9,032
6. J068: Other acute upper respiratory infections of multiple sites	104,394	3,662	6,165	13,547	62,960	9,107	8,953
7. O800: Spontaneous vertex delivery	98,905	-	-	812	98,093	-	-
8. N185: Chronic kidney disease, stage 5	89,365	-	7	174	34,496	26,585	28,103
9. I500: Congestive heart failure	86,919	85	46	144	26,157	21,846	38,641
10. N390: Urinary tract infection, site not specified	77,705	1,643	1,728	2,050	22,156	16,841	33,287
11. D561: Beta thalassaemia	60,895	181	4,587	31,947	21,477	1,680	1,023
12. J441: Chronic obstructive pulmonary disease with acute exacerbation, unspecified	54,744	-	21	34	9,622	16,499	28,568
13. R509: Fever, unspecified	53,262	2,854	6,031	5,777	21,088	7,195	10,317
14. J208: Acute bronchitis due to other specified organisms	50,866	1,871	3,621	6,947	26,453	5,524	6,450
15. A090: Other and unspecified gastroenteritis and colitis of infectious origin	47,263	4,785	5,686	3,923	15,399	7,269	10,201
16. I639: Cerebral infarction, unspecified	46,815	3	8	38	15,232	13,790	17,744
17. J209: Acute bronchitis, unspecified	45,043	3,951	20,507	8,070	6,501	2,287	3,727
18. L031: Cellulitis of other parts of limb	44,664	217	2,057	1,764	17,122	10,457	13,047
19. H251: Senile nuclear cataract	43,566	-	-	-	6,356	17,628	19,582
20. P599: Neonatal jaundice, unspecified	43,542	43,542	-	-	-	-	-
Top 20 Diseases	**1,800,879**	**104,907**	**140,461**	**166,663**	**736,030**	**267,419**	**385,399**
% Top 20 Diseases	**29.04**	**23.22**	**43.56**	**36.18**	**26.32**	**26.80**	**32.87**
Total	**6,201,940**	**451,713**	**322,461**	**460,675**	**2,796,566**	**997,984**	**1,172,541**

Source: *Data of Outpatient services, UC Scheme, from IP E-Claim, Fund Management Unit, NHSO. Data as of September 30th, 2022, Analyzed on February 8th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Note:
1. *Calculated from inpatient admissions by Principal Diagnosis (PDx) 2. Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.*
2. *Guideline for ICD10 coding reference to Thai Health Coding Center: THCC and MOPH defined coding J128: Other viral pneumonia and U071: COVID-19, virus identified in case of Inpatients who diagnosed COVID-19.*

Table 2-14

Top 20 Diseases of UCS Inpatients who died after admission classified by age groups in the Fiscal Year 2022

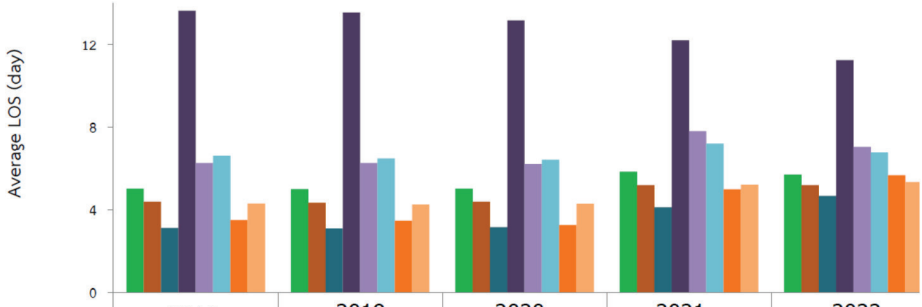
ICD10: principal Dx	OP-visit (visits)	<1 year	1-4 years	5-14 years	15-59 years	60-69 years	>=70 years
1. J128: Other viral pneumonia	11,613	5	4	3	2,832	3,032	5,737
2. J189: Pneumonia, unspecified	10,720	63	38	37	2,803	2,248	5,531
3. I500: Congestive heart failure	3,912	4	3	6	994	919	1,986
4. N390: Urinary tract infection, site not specified	3,662	-	1	2	556	721	2,382
5. I610: Intracerebral haemorrhage in hemisphere, subcortical	3,234	-	-	-	1,396	816	1,022
6. N185: Chronic kidney disease, stage 5	3,152	-	-	3	988	836	1,325
7. I214: Acute subendocardial myocardial infarction	2,784	-	-	-	436	659	1,689
8. C349: Malignant neoplasm of bronchus or lung, unspecified	2,517	-	-	-	710	802	1,005
9. K922: Gastrointestinal haemorrhage, unspecified	2,372	-	1	2	1,034	515	820
10. J181: Lobar pneumonia, unspecified	2,288	3	3	4	735	507	1,036
11. J690: Pneumonitis due to food and vomit	2,261	18	8	17	320	380	1,518
12. R572: Septic shock	2,107	18	4	18	705	500	862
13. J440: Chronic obstructive pulmonary disease with acute lower respiratory infection	2,021	-	-	-	143	423	1,455
14. S0650: Traumatic subdural haemorrhage: without open intracranial wound	1,883	2	9	31	1,092	353	396
15. C220: Liver cell carcinoma	1,832	1	-	-	774	648	409
16. A419: Sepsis, unspecified	1,634	9	7	-	478	366	774
17. I619: Intracerebral haemorrhage, unspecified	1,552	-	-	4	580	359	609
18. J159: Bacterial pneumonia, unspecified	1,464	5	6	10	402	290	751
19. I639: Cerebral infarction, unspecified	1,412	-	-	1	299	342	770
20. A150: Tuberculosis of lung, confirmed by sputum microscopy with or without culture	1,182	1	-	-	550	256	375
Top 20 Diseases	**63,602**	**129**	**84**	**138**	**17,827**	**14,972**	**30,452**
% Top 20 Diseases	**44.43**	**5.21**	**23.33**	**18.85**	**38.02**	**45.70**	**50.80**
Total	**143,155**	**2,476**	**360**	**732**	**46,886**	**32,758**	**59,943**

Source: *Data of Outpatient services, UC Scheme, from IP E-Claim, Fund Management Unit, NHSO. Data as of September 30th, 2022, Analyzed on February 8th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Note:
1. *Calculated from inpatient admissions by Principal Diagnosis (PDx)*
2. *Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.*
3. *Status of Discharge = Death (Discharge Type = 8 or 9)*
4. *Guideline for ICD10 coding reference to Thai Health Coding Center: THCC and MOPH defined coding J128: Other viral pneumonia and U071: COVID-19, virus identified in case of Inpatients who diagnosed COVID-19*

Length of stay is an indicator of a health unit's management as it reflects hospitals' bed turnover rate and quality of care. The Average Length of Stay (LOS) for 2017-2019 was rather stable but the highest was seen in MoPH affiliated hospitals. However, in 2021, there was marked increase in LOS specifically in non-MoPH hospitals and private hospitals whereas the MoPH affiliated hospitals had a decrease in LOS. In the FY 2022, there was an increase in LOS specifically in community hospitals and private hospitals (Figure 2-14).

Figure 2-14 **Average length of stay classified by level of healthcare units and hospital type in the Fiscal Year 2018-2022**



	2018	2019	2020	2021	2022
Regional hospital (34)	5.02	5.00	5.02	5.84	5.69
Provincial hospital (87)	4.38	4.34	4.39	5.19	5.18
District hospital (764)	3.12	3.09	3.16	4.12	4.67
MoPH hospital (57)	13.63	13.53	13.16	12.20	11.24
Non-MoPH hospital (95)	6.26	6.26	6.21	7.79	7.04
Medical school (23)	6.61	6.47	6.43	7.20	6.77
Private hospital (70)	3.50	3.47	3.25	4.99	5.67
Total (1,130)	4.30	4.25	4.29	5.21	5.34

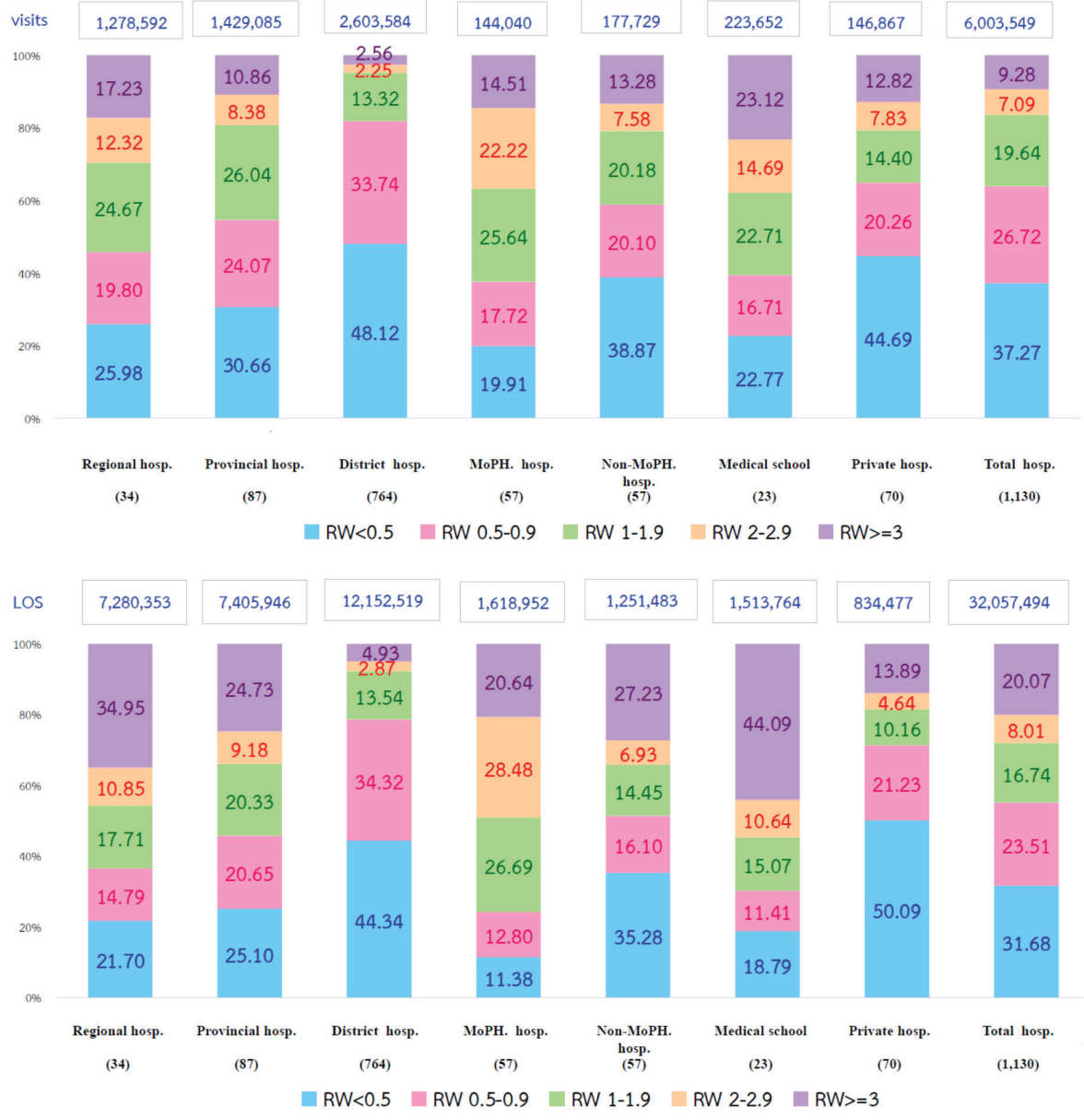
Source: *Data IP services from IP E-claim, Data as of September 30th, 2022, Analyzed on March 6th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes:
1. *The Average Length of Stay was inclusive of in-patients staying for more than 6 hours in the hospital*
2. *Excluded well baby delivered at hospital (code Z380)*
3. *Data analysis was based on hospital level in the FY 2022 and through retrospective data processing*

While the appropriateness of inpatients' admissions by services units were measured in Proportion to sum of admissions as per the Relative Weight (RW) of different levels of healthcare units and hospital types of which admissions with <0.5 RW was found in community hospitals being the highest followed by private hospitals and non-MoPH affiliated hospitals at 48.12 percent, 44.69 percent, and 38.87 percent, respectively. As for proportion of LOS with >=3 RW was in medical schools followed by regional hospitals and non-MoPH hospitals at 44.09 percent, 34.95 percent, and 27.23 percent (Figure 2-15).

Figure

2-15 **Proportion of sum of admission and sum of Length of Stay classified by Range of RW and level of healthcare units / hospital type in the Fiscal Year 2022**



Source: *Data IP services from IP E-claim, Data as of September 30th, 2022, Analyzed on March 6th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes:
1. *The Average Length of Stay was inclusive of in-patients staying for more than 6 hours in the hospital*
2. *Excluded well baby delivered at hospital (code Z380)*
3. *Data analysis was based on hospital level in the FY 2022 and through retrospective data processing*

Considering the utilization of financial resources disbursed for inpatients services in various hospitals and service units, the Sum of Adj. RW is the reflection of medical compensation. In 2022, the highest was found in community hospitals with proportions of UC inpatients' services followed by general hospitals and regional hospitals at 43.37 percent, 23.81 percent and 21.30 percent, respectively. While the proportion of medical resources utilized for treatment as reflected by the Sum of Adj.RW adjusted was the greatest at regional hospitals at 32.42 percent, general hospitals at 26.16 percent, and district hospitals at 24.25 percent (Table 2-15).

Table

2-15 Number of visits, Sum of Adj. RW, and CMI-Adj. RW classified by level of healthcare units / hospital type in the Fiscal Year 2022Year 2022

Hospital type	Fiscal Year 2021						Fiscal Year 2022					
	units	IP-visit (visits)	%	Sum Adj.RW	%	CMI	units	IP-visit (visits)	%	Sum Adj.RW	%	CMI
Regional hospital	34	1,254,506	22.45	2,534,292	33.80	2.02	34	1,278,592	21.30	2,541,785	32.42	1.99
Provincial hospital	87	1,322,566	23.67	1,914,352	25.53	1.45	87	1,429,085	23.81	2,050,976	26.16	1.44
District hospital	764	2,368,907	42.40	1,740,895	23.22	0.73	764	2,603,584	43.37	1,900,895	24.25	0.73
MoPH hospital	56	143,732	2.57	291,062	3.88	2.03	57	144,040	2.40	284,049	3.62	1.97
non-MoPH hospital	93	172,795	3.09	279,211	3.72	1.62	95	177,729	2.96	278,218	3.55	1.57
Medical schools	23	215,009	3.85	514,261	6.86	2.39	23	223,652	3.73	543,893	6.94	2.43
Private hospital	67	110,177	1.97	222,928	2.97	2.02	70	146,867	2.44	239,466	3.05	1.63
Total	**1,124**	**5,587,692**	**100.00**	**7,497,001**	**100.00**	**1.34**	**1,130**	**6,003,549**	**100.00**	**7,839,281**	**100.00**	**1.31**

Source: *Data IP services from IP E-claim, Data as of September 30th, 2022, Analyzed on March 6th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

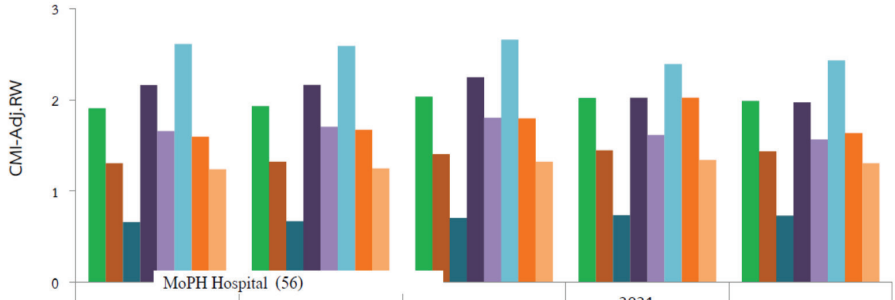
Notes: *1. Excluded well baby delivered at hospital (code Z380)*

2. Data analysis was based on hospital level in the FY 2022 and through retrospective data processing

Case Mix Index (CMI), or Relative Weight (RW) or Adjusted Relative Weight (AdjRW), is an index reflecting the efficiency and health services performances provided by each service level and affiliation in an allotted period. The CMI values indicates diversity of patients that is comparable with the CMI of similar healthcare settings to evaluate a hospital facility and improvements to be made to healthcare facility as per the required standard.

As per the goals of the Service Plan of the MoPH, the CMI index value of each unit had been set to be no less than 1.6 for regional level (A), 1.2 for large general hospital level (S), 1.0 for small general hospital level (M1),0.8 for community hospital network level (M2), and 0.6 for community hospital level. The fiscal 2022 year has seen a standard performance of all levels of health centers, particularly, the services provided by health centers of the Office of the Permanent Secretary MoPH, general hospitals and community hospitals were not significantly different from that of 2021 FY while hospitals affiliated with MoPH, non-MoPH affiliated hospitals and medical schools had a decreased CMI in 2021 and 2022; private hospital had a higher MCI in 2021 but a decreased CMI in 2022 (Figure 2-16).

Figure 2-16 **Case Mix Index Adjusted Relative Weight classified by level of healthcare units/hospital type in the Fiscal Year 2018-2022**



	2018	2019	2020	2021	2022
Regional Hospital (34)	1.91	1.93	2.03	2.02	1.99
Provincial Hospital (87)	1.30	1.32	1.40	1.45	1.44
District Hospital (764)	0.66	0.67	0.71	0.73	0.73
MoPH Hospital (57)	2.16	2.16	2.25	2.03	1.97
Non-MoPH Hospital (95)	1.66	1.71	1.80	1.62	1.57
Medical School (23)	2.61	2.59	2.66	2.39	2.43
Private Hospital (70)	1.60	1.67	1.80	2.02	1.64
Total (1,130)	1.24	1.25	1.32	1.34	1.31

Source: *Data IP services from IP E-claim, Data as of September 30th, 2022, Analyzed on March 6th, 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes: *1. Excluded well baby delivered at hospital (code Z380)*
2. Data analysis was based on hospital level in the FY 2022 and through retrospective data processing

6.1.3 Specialized services and High-cost services

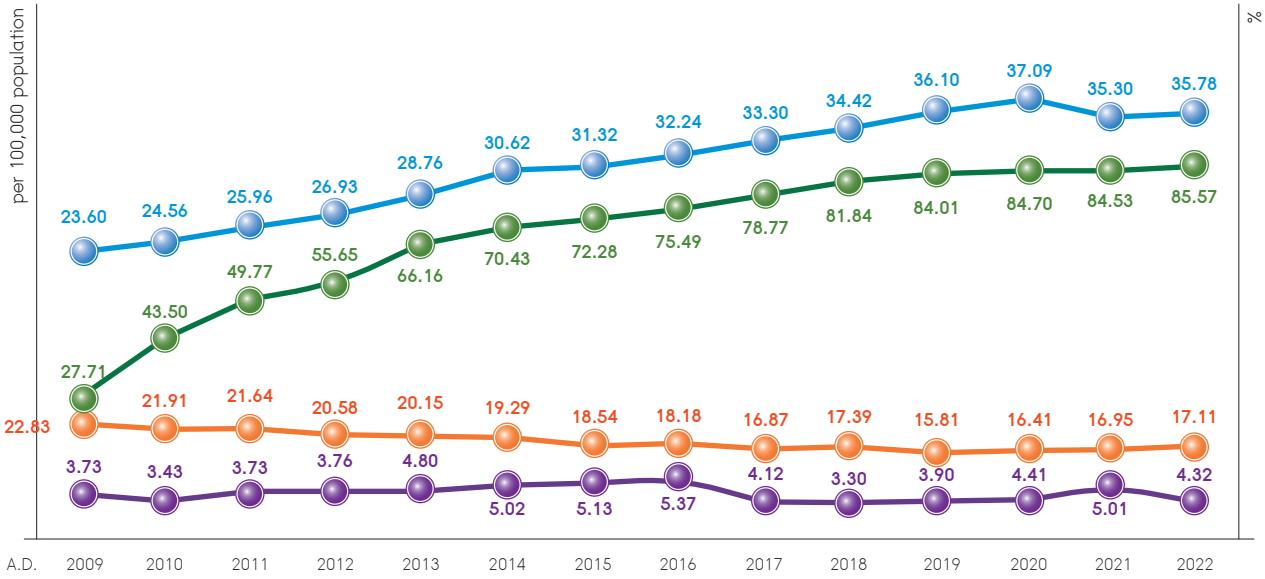
1) ST-elevated Myocardial Infraction (STEMI)

STEMI is a significant cause of death, therefore, the NHSO employs a financial mechanism to increase access to standard care by paying for antithrombotic medications and Percutaneous Coronary Intervention (PCI).

The admission rate of STEMI in the 15 years and older age group under the UCS has increased from 23.60 per 100,000 population in 2009 to 37.09 per 100,000 population in 2020, decreased in 2021 to 35.30 per 100,000 population but increased to 35.78 per 100,000 population in 2022 whilst the number of patients receiving antithrombotic and/or PCI have increased from 27.7 percent in 2009 to 85.57 percent in 2022.

The percentage of case fatality rate within 30 days of admission decreased from 22.83 percent in 2009 to 15.81 percent in 2019 and minimally increased to 17.11 percent in 2022 while re-admissions within 28 days remained within a range of 3.43 - 5.37% (Figure 2-17).

Figure 2-17 **Service for ST-elevated Myocardial Infarction (STEMI) patients under the UC scheme in the Fiscal Year 2009-2022**



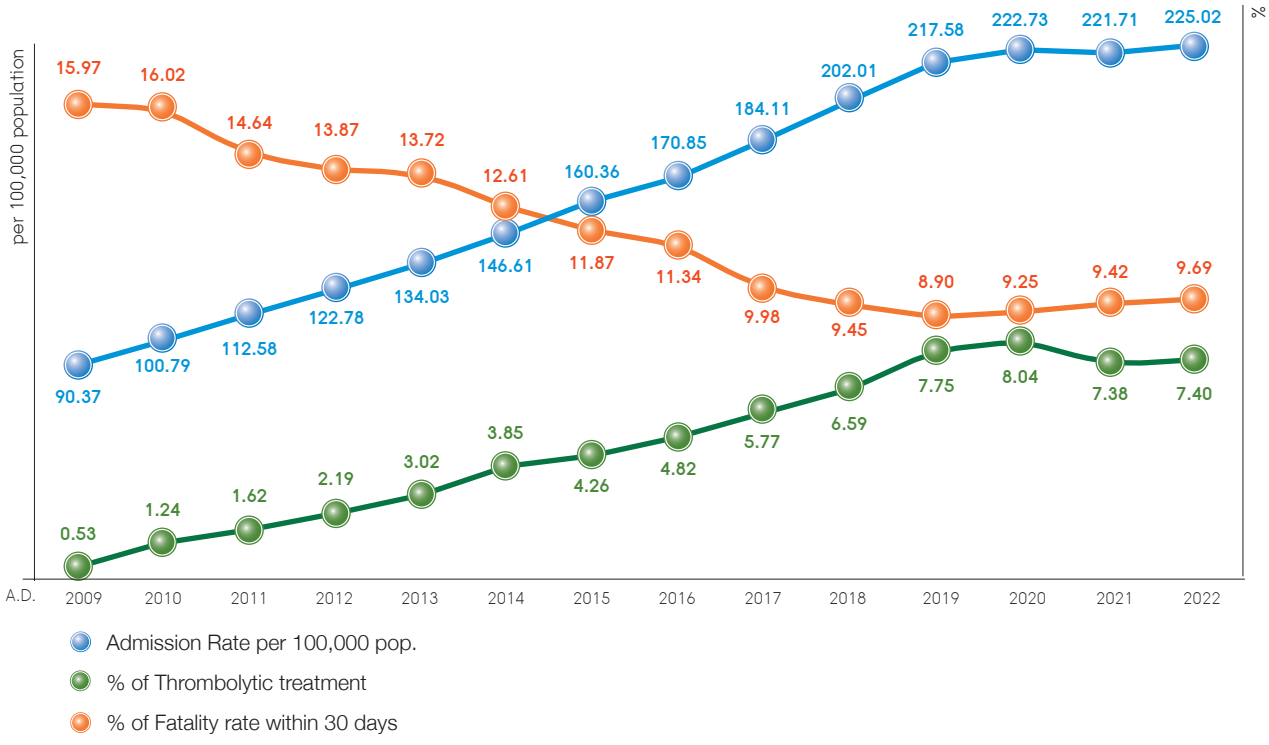
Source: NHSO Health Service Indicator Report: H0301, Monitoring and Evaluation Cluster, NHSO, data as of 30 September 30th ,2022, Analyzed on January 26th, 2023

2) Cerebral Infarction

Cerebral Infarction is a condition that annually increases the risk of paralysis and death without immediate and efficient interventions. Hence, the NHSO had provided additional financial support through shouldering payments for antithrombotic medications.

The admission rates because of cerebral infarction in 15 years or older age group have increased from 90.37 per 100,000 population in 2009 to 225.02 in 2022. The percentage of patients that received antithrombotic has increased from 0.53 percent in 2009 to 8.04 percent in 2020 while 7.83 percent in 2021 followed by an increase to 7.40 percent in 2022. The case fatality rate within 30 days of admission decreased from 15.97 percent in 2009 to 8.90 percent in 2019 with minimal increase to 9.69 percent in 2022 (Figure 2-18).

Figure **2-18** **Service for Cerebral Infarction patients under the UC scheme in the Fiscal Year 2009-2022**



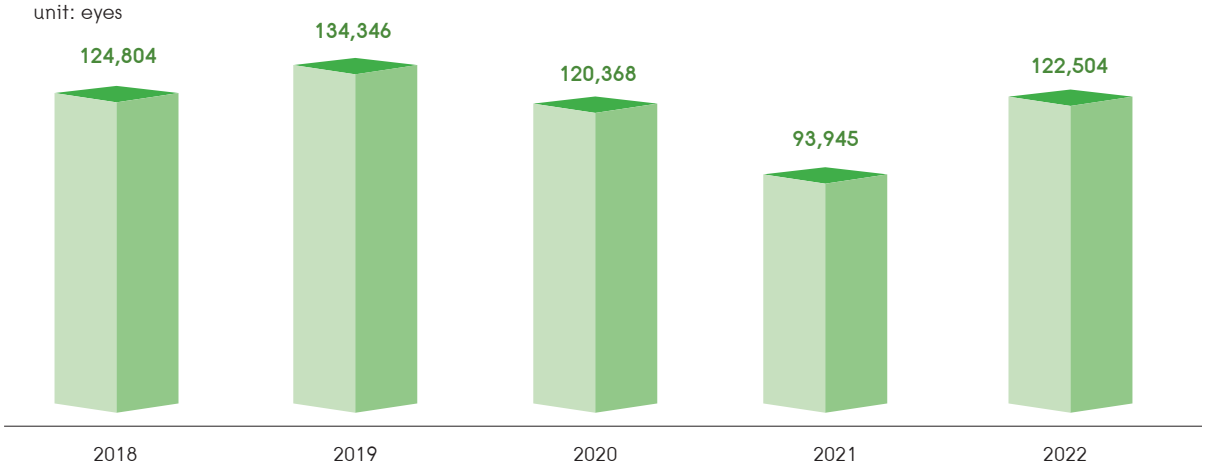
Source: NHSO Health Service Indicator Report: H0301, Monitoring and Evaluation Cluster, NHSO, data as of September 30th, 2022, analyzed on January 26th, 2023

3) Cataract

Cataract is the most common cause of blindness in Thai citizens, hence, the NHSO financially supplements cataract surgeries and intraocular lens expenditures to allow beneficiaries to receive quality and standard treatment.

In the 2022 fiscal year, 122,504 eyes (equivalent to 110,245 beneficiaries) of UC beneficiaries were diagnosed with Senile Cataract, which is an increase from the average number of cataract surgeries from 2018-2021 at 118,366 eyes (Figure 2-19).

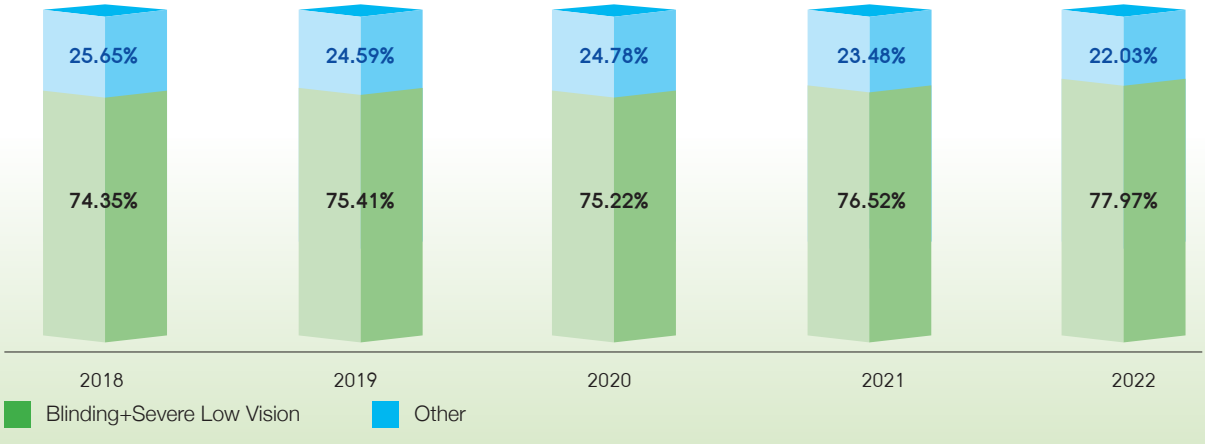
Figure 2-19 **Cataract surgery on senile cataract patients under the UC scheme in the Fiscal Year 2018-2022**



Source: Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO, Data as of September 30th, 2022, analyzed on January 30th. 2023

The NHSO and relevant networks held strong to the policy of providing surgeries for Blinding Cataract patients and severe low vision patients together making up 77.97 percent of the total catarct surgeries; this was slight increase from the former 76.52 percent in 2021 (Figure 2-20). However, there might be proportional differences in health regions (Figure 2-21).

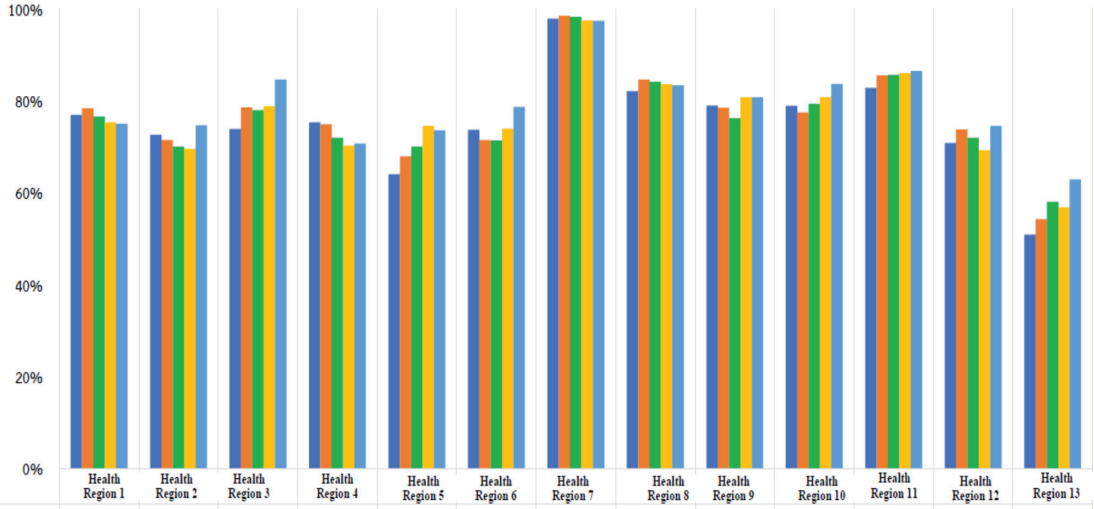
Figure 2-20 **Proportion of Cataract surgery, compare to Blinding cataract and Severe low vision and Other vision patients in the Fiscal Year 2018-202**



Source: Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO, data as of September 30th, 2022, analyzed on January 30th, 2023

In 2022, 96.34 percent of the catarct surgeries conducted were performed within public healthcare settings (85.69 percent under the supervision of the MoPH). When compared to the total nationwide number, there has been a 76.70 percent increase in surgeries from 2015; this is an evidence to the increased capabilities of public healthcare settings in performing cataract surgeries.

Figure 2-21 **Percentage of Cataract surgery on Blinding cataract and Severe low vision patients classified by Health region in the Fiscal Year 2018-2022**



	Health Region 1	Health Region 2	Health Region 3	Health Region 4	Health Region 5	Health Region 6	Health Region 7	Health Region 8	Health Region 9	Health Region 10	Health Region 11	Health Region 12	Health Region 13
2018	77%	73%	74%	75%	64%	74%	98%	82%	79%	79%	83%	71%	51%
2019	78%	71%	79%	75%	68%	71%	98%	85%	78%	77%	85%	74%	54%
2020	77%	70%	78%	72%	70%	71%	98%	84%	76%	79%	86%	72%	58%
2021	75%	70%	79%	70%	75%	74%	97%	84%	81%	81%	86%	69%	57%
2022	75%	75%	85%	71%	74%	79%	97%	83%	81%	84%	86%	74%	63%

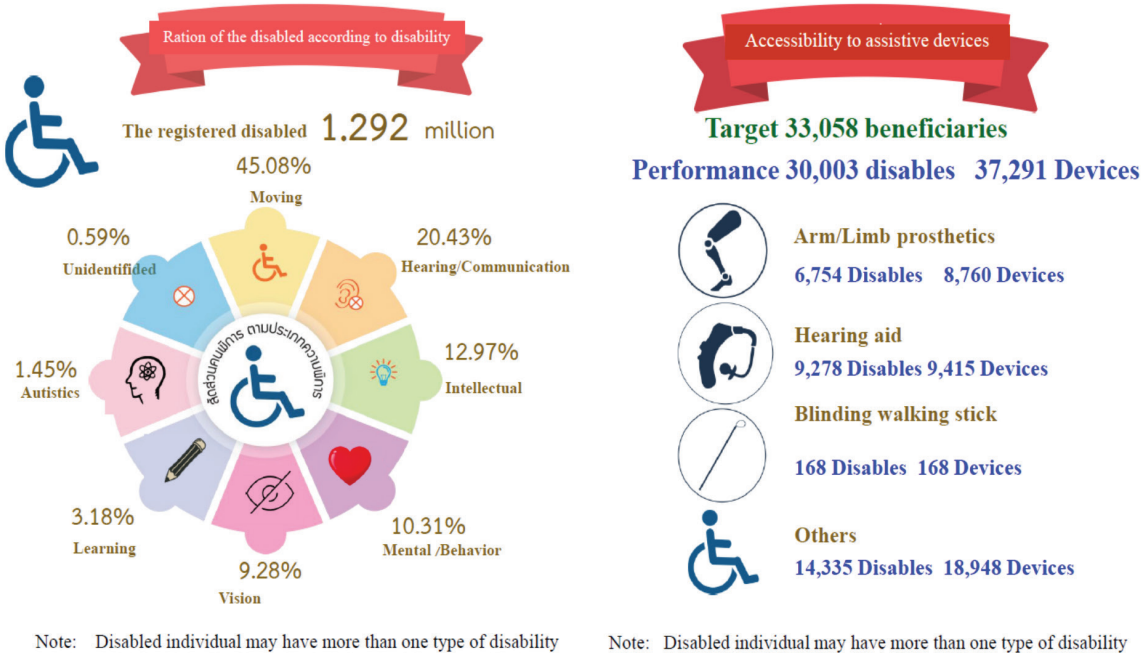
Source: Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO, data as of September 30th, 2022, Analyzed on January 30th, 2023

6.1.4 Rehabilitation Services

The fiscal 2022 year, NHSO had allocated 18.73 baht per UC beneficiary for a total of 47.547 million beneficiaries for medical rehabilitation services and had added intermediate care (IMC) for stroke, brain injury and spinal cord injury patients.

There is a continuous increase in disabled individuals registering with the UC reaching that of 1.292 million disabled individuals classified as follows: 45.08 percent were individuals with movement disability, 20.43 percent were individuals with hearing impairment and 12.97 percent were intellectually impaired individuals (Figure 2-22).

Figure 2-22 **Proportion of Disabled under UC scheme classified by Type of disability and Assistive devices support to disabled in the Fiscal Year 2022**



Note: Disabled individual may have more than one type of disability

Note: Disabled individual may have more than one type of disability

Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 20 January 2023*

Note: *1. A disabled individual may have more than one type of disability*
2. A disabled individual may use more than one type of assistive device

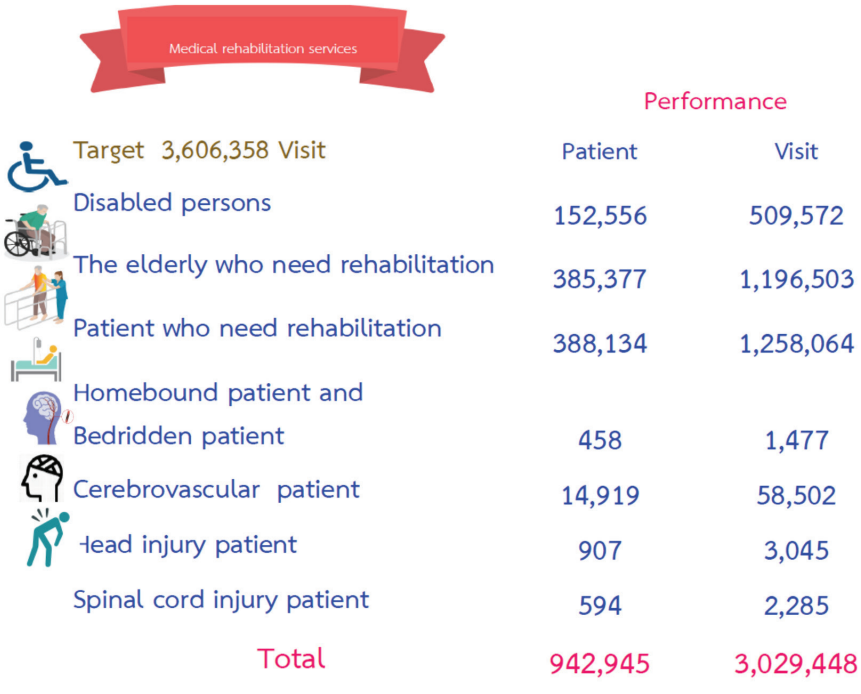
A total of 30,003 disabled individuals received 37,291 assistive devices comprising of 6,754 individuals receiving 8,760 prosthetics arms-legs, 9,278 individuals received 9,415 hearing devices, 168 blind individuals received white cane, or the probing cane, while 14,335 individuals received 18,948 other assistive devices (Figure 2-22) (Table 2-16 and Appendix Table 5-6).

A total of 942,945 individuals received 3,092,448 medical rehabilitation visits divided into 1. 152,556 disabled individuals received 509,572 visits, 2. 385,377 elderly required medical rehabilitation at 1,196,503 times, 3. 388,134 patients required medical rehabilitation at 1,257258,064 times, and 4. 458 bed-ridden domiciles received 1,477 medical rehabilitation services. While Intermediate Care (IMC) had seen 14,919 stroke patients receiving care at 58,502 times, 1,501 patients suffering from Brain, Spinal Cord injury received care 5,330 times (Figure 2-23) (Tables 2-17 and 2-18, Appendix Tables 5-7 and 5-8).

However, with the COVID-19 pandemic, the funds form 2021 and 2022 fiscal years utilized for assistive devices and medical rehabilitation for the disabled had decreased when compared to the former years.

Figure

2-23 **Rehabilitation services classified by type of rehabilitees in the Fiscal Year 2022**



Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 20 January 2023*

Table

2-16 **Assistive devices support to disabled classified by Type of devices in the Fiscal Year 2018-2022**

Type of Assistive devices support	2018 persons/ pieces	2019 persons/ pieces	2020 persons/ pieces	2021 persons/ pieces	2022 persons/ pieces
1. Movement supported	6,356/ 8,202	6,486/ 8,203	6,282/ 8,134	5,559/ 7,093	6,754/ 8,760
2. Hearing supported	8,302/ 8,366	7,897/ 7,989	8,080/ 8,162	5,540/ 5,616	9,278/ 9,415
3. Blinding supported	392/ 392	276/ 276	240/ 240	243/ 243	168/ 168
4. Other disabled supported	13,789/ 16,667	13,660/ 15,861	14,020/ 18,086	13,889/ 17,817	14,335/ 18,948
Total persons	28,360	27,890	28,166	24,842	30,003
Total pieces	33,627	32,329	34,622	30,769	37,291

Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 20 January 2023*

Note: *A disabled individual may use more than one type of assistive device*

Table 2-17

Rehabilitation services classified by Type of rehabilitees in the Fiscal Year 2018-2022

Type of rehabilitees	2018 persons/ pieces	2019 persons/ pieces	2020 persons/ pieces	2021 persons/ pieces	2022 persons/ pieces
1. Disabled	197,950/ 809,853	193,683/ 792,677	185,328/ 677,145	163,766/ 544,430	152,556/ 509,572
2. Elderly who need rehabilitate	480,430/ 1,788,875	486,798/ 1,826,828	437,108/ 1,540,558	397,248/ 1,235,527	385,377/ 1,196,503
3. Patients who need rehabilitate	340,339/ 1,246,949	369,825/ 1,383,664	391,477/ 1,410,315	377,908/ 1,257,357	388,134/ 1,258,064
4. Paralysis	920 / 4,759	851 / 4,172	693 / 3,157	567 / 2,160	458 / 1,477
5. Intermediate Care for Stroke, Brain and Spinal cord injury)	-	-	-	12,436 / 58,444	16,420 / 63,832
Total persons	**1,019,639**	**1,051,157**	**1,014,606**	**951,925**	**942,945**
Total visits	**3,850,436**	**4,007,341**	**3,631,175**	**3,097,918**	**3,029,448**

Source: Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 20 January 2023

Table 2-18

Rehabilitation services classified by Type of rehabilitates in the Fiscal Year 2018-2022

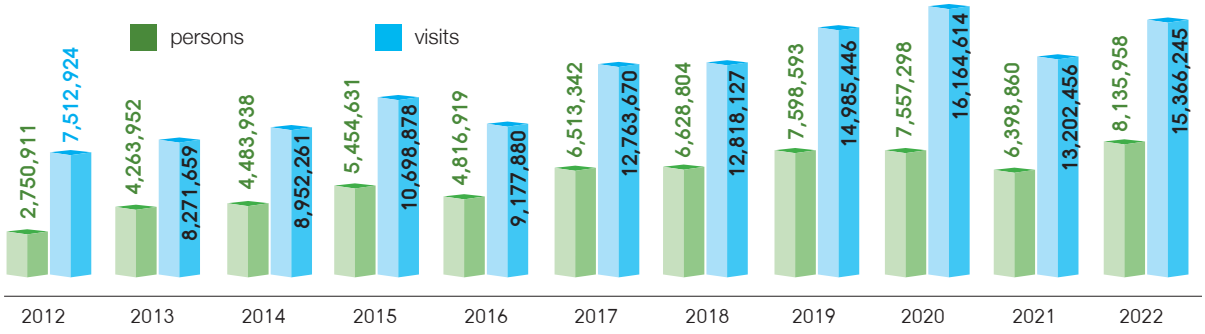
Type of rehabilitees	2018 persons/ pieces	2019 persons/ pieces	2020 persons/ pieces	2021 persons/ pieces	2022 persons/ pieces
1. Physical therapy	682,591 / 2,667,593	693,336 / 2,722,279	628,857 / 2,302,010	559,974 / 1,868,502	532,429 / 1,774,182
2. Psychotherapy	221,783 / 652,477	248,825 / 725,713	283,031 / 808,176	272,767 / 745,156	280,836 / 724,879
3. Behavior therapy	57,306 / 151,233	83,013 / 219,123	88,513 / 229,369	105,724 / 261,701	118,576 / 275,059
4. Activity therapy	49,150 / 200,035	48,021 / 199,691	47,650 / 171,223	39,213 / 127,242	48,541 / 149,856
5. Hearing rehabilitation	24,163 / 33,897	22,975 / 33,087	24,221 / 34,450	19,405 / 25,877	18,662 / 26,274
6. Early Intervention	22,681 / 49,218	24,326 / 54,236	25,184 / 51,535	20,997 / 41,279	18,896 / 39,088
7. Visual rehabilitation	41,858 / 67,620	19,515 / 25,881	6,538 / 12,705	6,098 / 10,912	7,620 / 12,595
8. Speech rehabilitation	8,285 / 27,691	8,185 / 26,675	7,729 / 21,162	6,902 / 16,802	8,349 / 26,824
9. Phenol Block	470 / 672	494 / 656	418 / 545	308 / 447	456 / 691
Total persons	**1,019,639**	**1,051,157**	**1,014,606**	**951,925**	**942,945**
Total visits	**3,850,436**	**4,007,341**	**3,631,175**	**3,097,918**	**3,029,448**

Source: Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 20 January 2023

6.1.5 Thai Traditional Medicine services

In the 2022 fiscal year, 7.90 baht per beneficiary was earmarked for 47.547 million UC beneficiaries and had added cannabis oil for treatment of cancer, Parkinson's' and migraine including cannabis extract for patients suffering from seizure and final-stage cancer and finally, 3 medications infused with cannabis consisting of Carminatives, treatment of myofascial chains, and drugs for the treatment of compressive neuropathy, Sukhsaiyas medication for better sleep and appetite stimulators and Phra Su-Men Treatment medication for the treatment of bad circulation, rehabilitation of weak muscles from seizure and paralysis. The usage of Thai Traditional medical services had seen an increase from FY 2021 due to the COVID-19 pandemic. A total of 8.136 million individuals had rendered Thai traditional medical services at 15,366 million times consisting of 1.534 million individuals rendered 3.082 million massages-hot compresses- herbal steams, 41,763 mothers had engaged in postpartum care at 131,018 times, 6.548 million individuals were prescribed 12.122 million Thai traditional medical from the Essential Drug List and with the new addition of acupuncture for new stroke patients, 2,169 new strokes patients had received 12,664 acupuncture treatments while 10,397 individuals had received cannabis oil and medication infused with cannabis 19,319 times (Figures 2-24 and 2-25) (Table 2-19 and Appendix Table 5-9).

Figure 2-24 **Thai Traditional Medicine services classified by Type of services in the Fiscal Year 2012-2022**

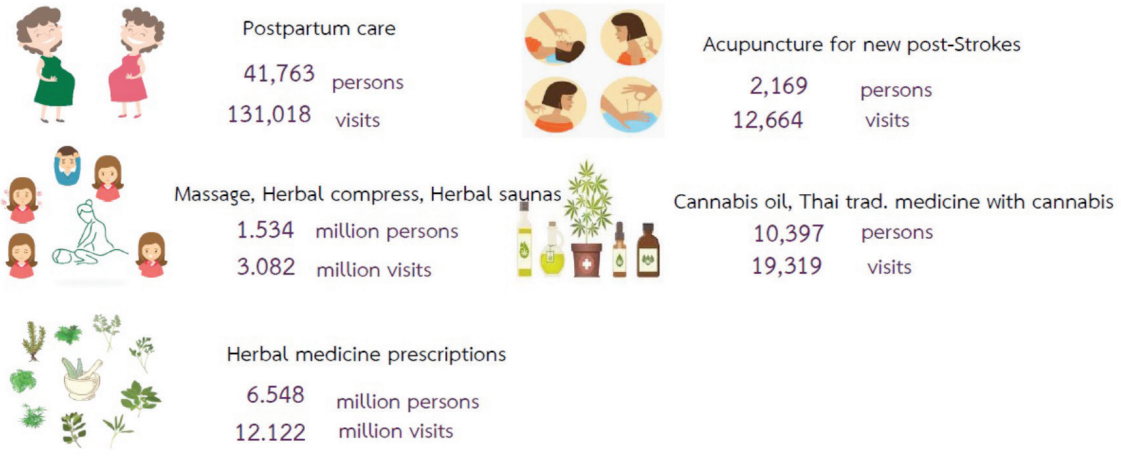


Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 17 January 2023*

Notes:
1. *Thai traditional medicine: massages, compressions, herbal steams, postpartum care, and herbal medicine (specific in Essential Drugs List) and acupuncture for new stroke patients including cannabis oil and Thai medication infused with cannabis.*
2. *In the FY 2021, the NHSO had added acupuncture, or electric acupuncture, for new stroke patients.*
3. *In the FY 2022, the NHSO had added cannabis oil for cancer, Parkinson's and migraine patients while seizure and final-stage cancer patients received extracts of cannabis and 3 medications infused with cannabis consists of carminatives, Sukhsaiyas and Phra Su-Meru medication.*

Figure

2-25 Thai Traditional Medicine services classified by Type of services in the Fiscal Year 2022



Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 17 January 2023*

Notes:
1. *Thai traditional medicine: massages, compressions, herbal steams, postpartum care, and herbal medicine (specific in Essential Drugs List) and acupuncture for new stroke patients including cannabis oil and Thai medication infused with cannabis.*
2. *In the FY 2021, the NHSO had added acupuncture, or electric acupuncture, for new stroke patients.*
3. *In the FY 2022, the NHSO had added cannabis oil for cancer, Parkinson's and migraine patients while seizure and final-stage cancer patients received extracts of cannabis and 3 medications infused with cannabis consists of carminatives, Sukhsaiyas and Phra Su-Meru medication.*

Table

2-19 Thai Traditional Medicine services classified by Type of services in the Fiscal Year 2018-2022

Thai Traditional Medicine	2018 persons/ pieces	2019 persons/ pieces	2020 persons/ pieces	2021 persons/ pieces	2022 persons/ pieces
1. massage, compress, herbal saunas	1,780,025 / 4,482,707	2,112,346 / 5,292,137	1,879,801 / 4,356,592	1,942,487 / 3,911,754	1,533,830 / 3,081,637
2. Postpartum care	45,328 / 174,333	60,833 / 223,957	67,017 / 212,988	60,493 / 189,358	41,763 / 131,018
3. Herbal medicine prescriptions	4,803,451 / 8,161,087	5,425,414 / 9,469,352	5,610,480 / 11,595,034	4,393,825 / 9,089,167	6,547,799 / 12,121,607
4. Acupuncture for new post-Strokes	-	-	-	2,055 / 12,177	2,169 / 12,664
5. Cannabis oil, Thai trad. medicine with cannabis	-	-	-	-	10,397 / 19,319
Total persons	**6,628,804**	**7,598,593**	**7,557,298**	**6,398,860**	**8,135,958**
Total visits	**12,818,127**	**14,985,446**	**16,164,614**	**13,202,456**	**15,366,245**

Source: *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed on 17 January 2023*

Notes:
1. *Thai traditional medicine: massages, compressions, herbal steams, postpartum care, and herbal medicine (specific in Essential Drugs List) and acupuncture for new stroke patients including cannabis oil and Thai medication infused with cannabis.*
2. *In the FY 2021, the NHSO had added acupuncture, or electric acupuncture, for new stroke patients.*
3. *In the FY 2022, the NHSO had added cannabis oil for cancer, Parkinson's and migraine patients while seizure and final-stage cancer patients received extracts of cannabis and 3 medications infused with cannabis consists of carminatives, Sukhsaiyas and Phra Su-Meru medication.*

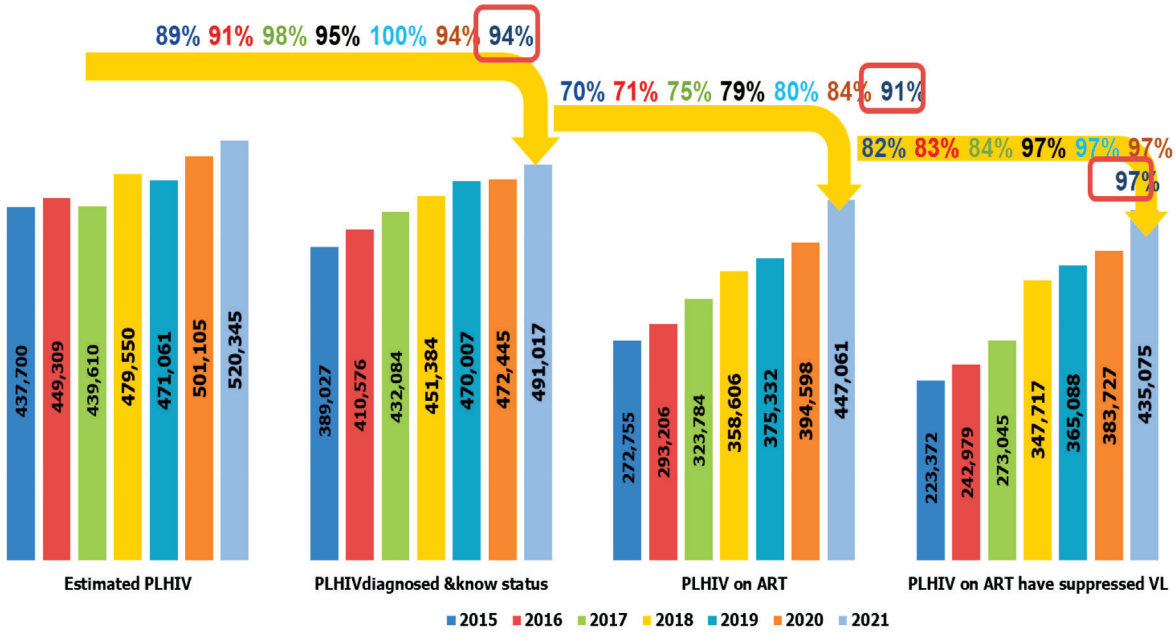
6.2 Health Service Utilization for Specialized groups

6.2.1 Antiretroviral Therapy in HIV/AIDS Patients

As the cabinet had approved a political declaration on HIV and AIDS in 2021 during the United Nations General Assembly High-Level Meeting calling on all countries to join hands in eradicating AIDS within B.E. 2573 (A.D. 2030) with a 95-95-95 target: 95 percent of citizens have been screened for HIV, 95 percent have been prescribed with antivirals, and 95 percent are able to suppress the viral load in blood.

Thailand's performance in 2021 was at 94-91-97, or 94 percent of HIV positive individuals had received screenings and results, 91 percent were prescribed with antivirals, and 97 percent were able to suppress their viral load (Figure 2-35) as referred from the National AIDS Management Centre (NAMc), Ministry of Public Health, in 2021.

Figure 2-26 **Thailand's Achievement in the Year 2015-2021 for Ending AIDS to Goals 95-95-95 targets in the Year 2030**



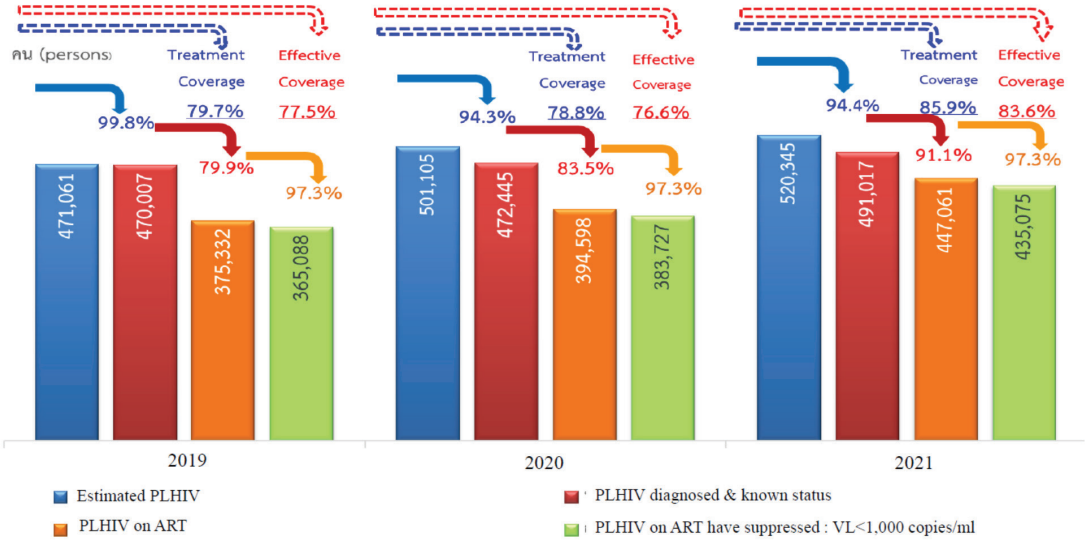
Source: AIDS and STI Division, Department of Disease Control, MOPH. Data in the Year 2015-2021, published on 28 March 2022

In 2022, the Estimated number of all people living with HIV (Estimated PLHIV) was 520,345 individuals, the number of HIV positive and AIDS patients from all schemes with known status was 490,017 individuals (or 94.4 percent when compared with the estimated number of infected individuals from all schemes), the number of infected receiving treatment from all insurance schemes whether it is the UCS, SSS, and CSMBS and those purchasing their own medications from the Government Pharmaceutical Organization was 447,061 individuals (or 91.1 percent when compared to estimated number of infected individuals); and 465,075 individuals (or 97.3 percent when compared to estimated people receiving antivirals) of HIV-positive patients receiving antivirals were able to suppress the viral load (VL suppressed, Viral load <1000 copies/ml).

Upon consideration of AIDS eradication from the perspective of Effective Coverage, it has been found

that 85.9 percent of AIDS patients had continuous access to antivirals (Treatment coverage) and 83.6 percent were able to suppress viral load in their blood (VL Suppressed: VL<= 1000 copies/ ml) when compared to the Estimated number of people living with HIV while another 16.4 percent of HIV positive and AIDS patients still require accelerated access to antivirals in order to suppress viral load to the standard amount (Figure 2-27).

Figure 2-27 **Cascade Services and Effective Coverage of Thailand Achievement in the Year 2019-2021 for Ending AIDS to Goals 95-95-95 targets in the Year 2030**



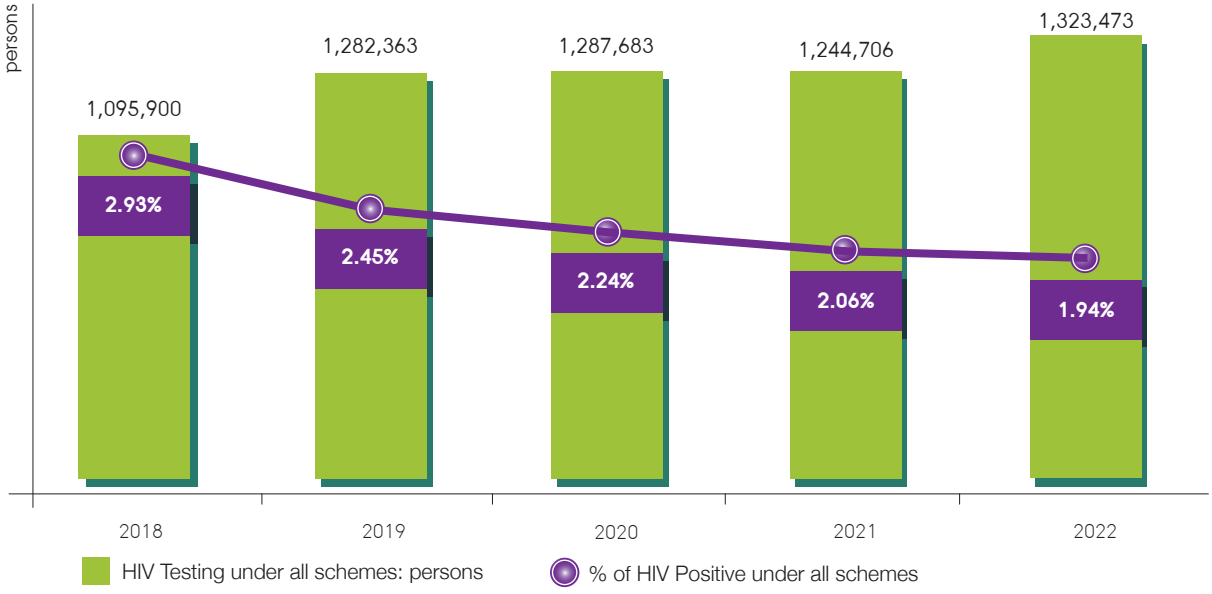
Source: *AIDS and STI Division, Department of Disease Control, MOPH. Data in the Year 2015-2021, published on 28 March 2022*

Notes:
1. *Estimated PLHIV, Division of AIDS and STIs, Department of Disease Control, Ministry of Public Health, 2020, publicized as of March 28th, 2022*
2. *PLHIV on ART have suppressed VL in HIV positive and AIDS patients receiving complete 12 months of antiretrovirals and results of VL<1000 copies/ml testing.*
3. *Treatment Coverage was calculated based on PLHIV on ART compared to Estimated PLHIV*
4. *Evaluation of Effective Coverage was calculated on PLHIV on ART have suppressed VL, VL <= 1000 copies/ ml when compared to Estimated PLHIV*

The NHSO, as the organization responsible for such achievements, had provisioned Pre-Exposure Prophylaxis (PrEP) for at-risk groups, or groups emitting signs of being HIV positive in the 2022 fiscal year. The NHSO had pushed for the "New Normal - New HIV Testing": HIV Free Screening, Fast Treatment to Recovery as an awareness campaign encouraging citizens to be aware of self-HIV status faster to begin treatment and plan for their futures. All Thai citizens with a 13-digits identification card can participate in HIV Voluntary counseling and testing (VCT) free, twice a year. 1,323,473 individuals (1,464,634 screenings) had HIV screenings of which 25,718 were positive, or 1.94 percent, signifying a decreasing trend in HIV positive patients (Table 2-28).

Figure

2-28 **HIV Testing and diagnosed results HIV is positive under all schemes in the Fiscal Year 2018-2022**

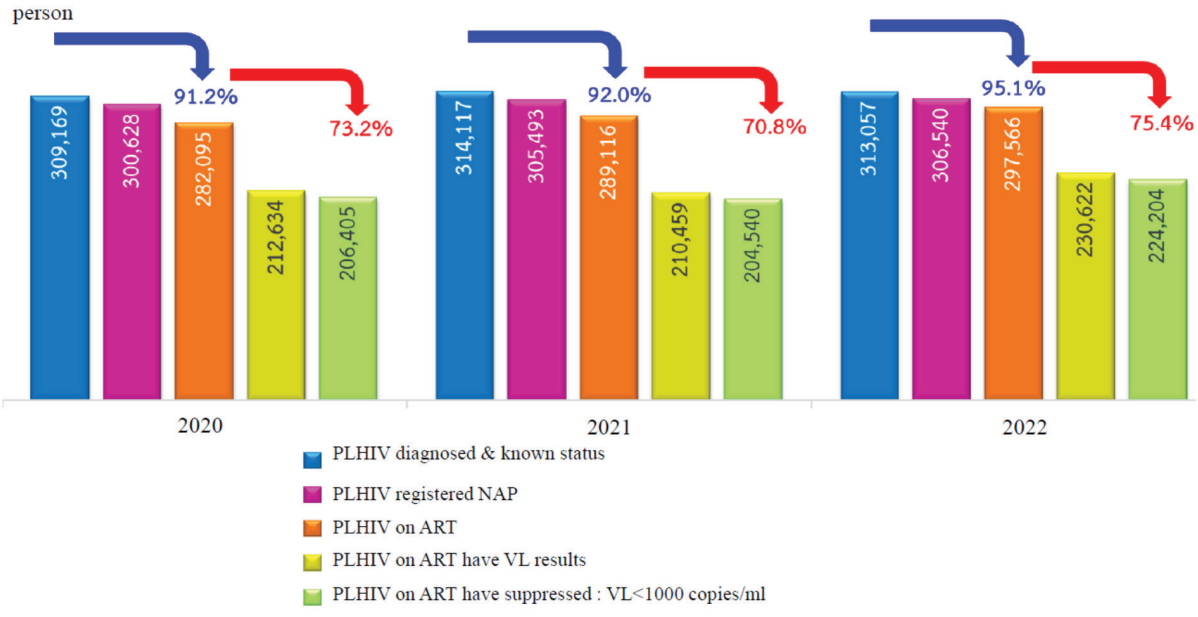


Source: *National AIDS Program: NAP Report Program, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 1 February 2023*

As per the National AIDS Program (NAP), it has been found that in FY 2022, there were 313,057 UC HIV-positive and AIDS patients of whom 306,540 had registered with the NAP system; 297,566 HIV-positive individuals had received antivirals (excluding deaths), or 95.1 percent of those infected; and 224,204, or 75.4 percent, of HIV-positive patients receiving antiretrovirals were able to suppress the viral load (Viral load <1000 copies/ml, suppressed) when compared to all receiving antiretrovirals. Nevertheless, only 230,662 individuals, or 77.5 percent, of those receiving antiretrovirals were assessed for their viral loads; therefore, there should be monitoring for the remaining 22.5 percent to ascertain that the viral load is in the standard level (Figure 2-29) (Table 2-20 and Appendix Table 5-10).

Figure 2-29

Cascade Services for People Living with HIV & AIDS under the UC scheme in the Fiscal Year 2020-2022



Source: National AIDS Program: NAP Report Program, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 1 February 2023

Table 2-20

Services for People Living with HIV & AIDS under the UC scheme in the fiscal Year 2018-2022

Unit: persons

Service package of PLHA under UCS	2018	2019	2020	2021	2022
1. PLHIV Diagnosed & known status	293,564	301,343	309,169	314,117	313,057
2. PLHIV Registered NAP	283,773	291,881	300,628	305,493	306,540
3.1 PLHIV on ART	262,274	271,704	282,095	289,116	297,566
- % of PLHIV on ART to PLHIV with Diagnosed & known status	89%	90%	91%	92%	95%
3.2 PLHIV on ART in current period exclude un-continuous ART and Loss to follow up	233,336	237,278	245,660	252,029	261,487
4. PLHIV with VL tested	204,643	207,866	212,634	210,459	230,622
5. PLHIV with VL< 1,000 copies/ml: VL Suppression	198,000	201,793	206,405	204,540	224,204
- % of PLHIV with VL Suppression to PLHIV on ART	75%	74%	73%	71%	75%

Table 2-20 **Services for People Living with HIV & AIDS under the UC scheme in the fiscal Year 2018-2022**

Unit: persons

Service package of PLHA under UCS	2018	2019	2020	2021	2022
6. PLHIV with VL< 50 copies/ml: VL Undetectable	188,855	193,641	195,998	194,611	214,095
- % of PLHIV with VL Undetectable to PLHIV on ART	72%	71%	69%	67%	71%

Source: *National AIDS Program: NAP Report Program, Fund Management Unit, NHSO. Data on 30 September 2022, Analyze at 1 February 2023*

Notes: *1. VL suppressed: HIV/AIDS patients receiving ART for 12 months and with a VL<1,000 copies/ml*
2. Undetectable: HIV/AIDS patients receiving ART for 12 months and with a VL<50 copies/ml

6.2.2 HIV Prevention in High-risk group

For the past 17 years, the NHSO has continuously managed and prevented HIV with MoPH, AIDS Access Foundation, Thai Network of People Living with AIDS (TNP+) through providing benefits, antiretrovirals for those with drug-resistant organisms. After the declaration of Compulsory Licensing (CL) by the MoPH was able to manage HIV positive and at-risk groups better through expanding antiretroviral therapy without limitations as to the immunity (CD4), antiretroviral therapy for pregnant women to prevent vertical transmission form mother to child, Voluntary Counseling and Testing (VCT) for all Thais at 2 times per year, Pre-Exposure Prophylaxis (PrEP), HIV Post-Exposure Prophylaxis (HIV PEP), screening and investigation for Hepatitis C for HIV positive individuals to receive treatment, lungs X-Ray to screen for Tuberculosis in all ne patients, Reach, Recruit, Test, Treatment, Prevention, Retain (RRTTPR) service, distribution of condoms to prevent the transmission of HIV including coordinating with organizations in hospitals to HIV positive individuals and those at high-risk.

The 2022 FY in regards to HIV Health promotion and Disease Prevention for all at-risk Thais, or prevent transmission of HIV amongst those infected with HIV/ AIDS patients, had provided 3 services consisting of:

1. Reach, Recruit, Test, Treatment, Prevention, Retain (RRTTPR): the NHSO has conducted active case findings in groups of citizens at high risk for HIV and have invited them to (Reach) utilize services through social and health networks. The at-risk groups are then Recruited to receive counseling and be Tested. Those testing positive for HIV will receive Treatment with ART and will be monitored to ensure that the patients attend to the treatment program and continuously take their prescriptions (Retain). As for the HIV negatives, the individuals will be retained for further STis testing including continuously be checked for HIV. The Prevention efforts are seen through the distribution of condoms to high-risk groups such as Men who have sex with men (MSM), transgender (TG), female sex workers/ male sex workers (FSW/MSW), persons who inject drugs (PWID), prisoners including pregnant women and husbands, youths, employees in at-risk communities, and partners of those in the high-risk groups. The NHSO had supported the search, interaction and education (Reach) of the at-risk groups to 129,211 individuals (139,558 times), have invited for VCT (Recruited) 122,942 individuals (132,330 times), and 119,756 target individuals received HIV testing (128,872 times), or 168.41 percent of allotted 71225 individuals (Source: HIV Info Hub: NAP Report Program, Fund Management Unit, NHSO. Data on 30 September 2022)

2. HIV Positive/ AIDS patients monitoring by HIV positive individuals in holistic centers with service units in order to better health and prevent the spread

of HIV, screen those at-risk, correct and continuous usage of medications and modification behaviors for 68,369 individuals, or 85 percent of targeted 80,434 individuals. Of the 68,369 individuals, 1. 65,844 individuals received services from the HIV positive/ holistic centers comprising of 36,373 individuals receiving counseling, 48,889 homes were visited, 17,367 individuals received group therapy. 58,744 service recipients received Anti-HCV screening, 63,400 individuals received antiretrovirals of whom 63,150 were individuals getting continuous medication; 2. HIV Prevention services for serodiscordant couples to 2,259 individuals eliciting 4,158 screenings, and 3. HIV Prevention in pregnant women and partner for 266 individuals at 755 times (Source: Report from Health Promotion and HIV Transmission Prevention by HIV positive group holistic center in 2022 Fiscal Year; Data from January, 1st – 31st September, 2022).

3. Pilot Pre-Exposure Prophylaxis (PrEP) to 10,074 individuals from targeted 3,000 individuals (335.80 percent) to 154 health centers while the 49,781 individuals of the at-risk group had received VCT, 10,978 individuals attended PrEP counseling sessions, 10,51e individuals registered joining the PrEP program, and 10,074 at-risk individuals were administered HIV pre-exposure prophylaxis medication (Source: NHSF, NHSO; Data on 30th September, 2022; analyzed on 10th October, 2022).

6.2.3 Renal Replacement Therapy in Chronic Kidney Disease Patients

For individuals suffering from chronic kidney diseases, it is a necessity to receive renal replacement therapy whilst waiting for a transplant; however, such therapy places undue financial hardships on household leading to bankruptcy. Therefore, the UCS has been executing the Peritoneal dialysis' First policy since 2008 with other sectors allowing chronic kidney diseases patients to have employment, a good social life, thus, a better quality of life decreasing hospital admissions' rates.

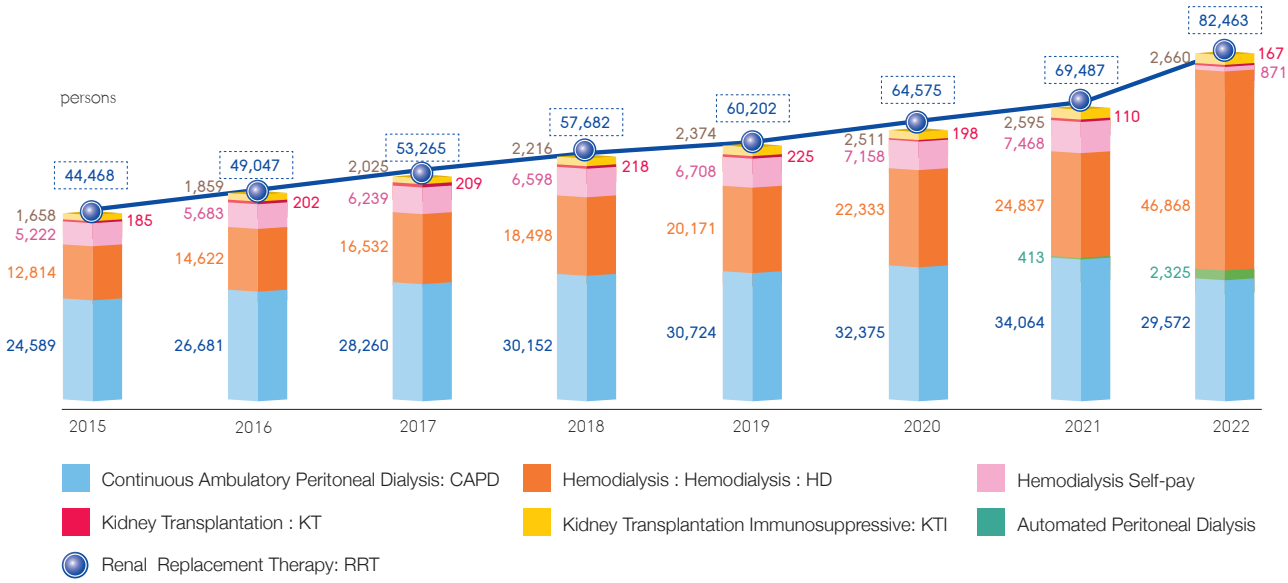
Effective from 1st February, 2022 onwards, the NHSO committee had resolve to terminate renal replacement therapy payment by patients in HD Self-Pay since the NHSO will shoulder the financial responsibility of HD costs for all end-stage renal failure patients, who wishes to receive renal therapy through hemodialysis machine. This effort, keeping patients at the centerfold, is to provide UC beneficiaries with another option in choosing the best dialysis manner that best fits their lifestyle under the guidance of a medical specialist. Each beneficiary can opt for either peritoneal dialysis or hemodialysis without any incurred expenses; these services have been extended to patients who had to finance their own dialysis.

The 2022 FY had seen 82,463 accumulated end-stage renal failure patients receiving dialysis from 1st October 2021 – 30th September 2022 (Inclusive of deaths with the year or those opting for another treatment mechanism). The 82,463 patients were divided into:

1. Continuous Ambulatory Peritoneal Dialysis (CAPD): 29,572 patients
2. Automated Peritoneal Dialysis (APD): 2325 patients
3. Hemodialysis (HD): 46,868 patients or double the number of patients from last year; possibly as a result of the NHSO policy allowing patients to opt for their preferred choice of dialysis under the guidance of their doctor, free of charge.
4. HD Self-Pay: 571 patients, who did not wish to receive peritoneal dialysis, nor did they pass the evaluation of the NHSF committee; however, this group received Erythropoietin (EPO) (currently, no patients need to finance their own dialysis).
5. Kidney Transplantation (KT): 167 new patients in 2022
6. Immunosuppressive drugs for Kidney Transplantation (KTI): 2,600 patients (Figure 2-30) (Table 2-21).

Figure **2-30**

Renal Replacement Therapy in Chronic Kidney Disease Patients in the Fiscal Year 2015-2022



Source: *Chronic Kidney Disease: CKD Reports, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 26 January 2023*

Notes:

1. *Chronic kidney failure patients can change treatment plan within the same fiscal year*
2. *Number of patients using service excludes patients who have died to reduce repeated counts.*
3. *Hemodialysis (HD) is a dialysis service for end-stage renal failure patients as per the criteria set by the NHSO's fund subsidizing for vascular access, hemodialysis cost, erythropoietin, and administration fees*
4. *For HD self-pay, the NHSO's fund only subsidize the cost of erythropoietin for renal replacement therapy patients using hemodialysis but not continuous ambulatory peritoneal dialysis (CAPD) and did not meet the committee's approval for end-stage renal disease treatment access on a district level*
5. *Automated Peritoneal dialysis is a newly added benefit in 2021*
6. *Effective from 1st February 2022, UC beneficiaries can opt for their preferred dialysis under the guidance of their doctors keeping patients as the centerfold of decision-making.*

Table 2-21

Renal Replacement Therapy in Chronic Renal Failure Patients in the Fiscal Year 2018-2022

Unit: persons

Renal Replacement Therapy	2018	2019	2020	2021	2022
1. Continuous Ambulatory Peritoneal Dialysis: CAPD	30,152	30,724	32,375	34,064	29,572*
Old cases bring from the previous year	21,693	22,235	22,995	23,843	24,439
New cases in the current year					
- New cases	7,984	8,049	8,926	9,758	5,082
- CAPD (Shift from another method)	475	440	454	463	1,352
Dropout cases in the current year)					
- Dead cases	6,591	6,346	7,150	7,745	8,200
- Shift to another method	1,315	1,369	1,399	1,869	3,785
- Loss to follow up cases	11	14	10	11	9
2. Automated Peritoneal Dialysis: APD	-	-	-	413	2,325
Old cases bring from the previous year	-	-	-	-	352
New cases in the current year	-	-	-	413	1,973
Dropout cases in the current year					
- Dead cases	-	-	-	49	276
- CAPD (Shift to CAPD	-	-	-	12	164
3. Hemodialysis: HD	18,498	20,171	22,333	24,837	46,868
Old cases bring from the previous year)	14,644	16,247	17,996	19,850	21,816
new cases in the current year					
- New cases	1,836	1,845	2,143	2,326	14,145
- Shift from another method	2,018	2,079	2,194	2,661	10,907
Dropout cases in the current year					
- Dead cases	2,141	2,062	2,355	2,928	6,527
- Shift to another method	110	113	123	93	1,084
4. Hemodialysis with patient's Self Pay: HD Self-pay	6,598	6,708	7,158	7,468	871**
Old cases bring from the previous year	4,858	5,001	5,329	5,613	5,635
New cases in the current year					
- New cases	1,716	1,680	1,800	1,824	632
- Shift from another method	24	27	29	31	18
Dropout cases in the current year)					
- Dead cases	989	769	918	1,137	534
- (Shift to another method	608	610	638	696	5,608
5. Kidney Transplantation: KT	218	225	198	110	167
New cases in the current year	218	225	198	110	167
Dead cases in the current year	25	20	19	34	44

Table 2-21 **Renal Replacement Therapy in Chronic Renal Failure Patients in the Fiscal Year 2018-2022**

Unit: persons

Renal Replacement Therapy	2018	2019	2020	2021	2022
6. Kidney Transplantation Immunosuppressive Drug: KTI	2,216	2,374	2,511	2,595	2,660
Old cases bring from the previous year	1,952	2,103	2,279	2,417	2,471
New cases in the current year	264	271	232	178	189
Dropout cases in the current year					
- Dead cases	81	47	57	73	93
- Shift to another method	32	48	38	51	50
(Total)	**57,682**	**60,202**	**64,575**	**69,487**	**82,463**

Source: *Chronic Kidney Disease: CKD Reports, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 26 January 2023*

Notes:
1. *Chronic kidney failure patients can change treatment plan within the same fiscal year*
2. *Number of patients using service excludes patients who have died to reduce repeated counts.*
3. *Hemodialysis (HD) is a dialysis service for end-stage renal failure patients as per the criteria set by the NHSO's fund subsidizing for vascular access, hemodialysis cost, erythropoietin, and administration fees.*
4. *For HD self-pay, the NHSO's fund only subsidize the cost of erythropoietin for renal replacement therapy patients using hemodialysis but not continuous ambulatory peritoneal dialysis (CAPD) and did not meet the committee's approval for end-stage renal disease treatment access on a district level*
5. *Automated Peritoneal dialysis is a newly added benefit in 2021*
6. *Effective from 1st February 2022, UC beneficiaries can opt for their preferred dialysis under the guidance their doctors keeping patients as the centerfold of decision-making.*

** CAPD for 29,752 patients were excluding patients who had shifted to another dialysis as per the new benefit in February amounting 1,301 patients to reduce repeated counts.*

***HD for 871 patients (those receiving service from October, 2021- 31st January, 2022) were excluding patients who had shifted to another dialysis as per the new benefit in February amounting to 5,414 patients to reduce repeated counts; currently, there are no patients financing their own dialysis.*

6.2.4 Prevention and Treatment, in Diabetes Mellitus and Hypertension patients, Quality and Outcome Framework of Diabetes Mellitus and Hypertension patients

Diabetes Mellitus (DM) and Hypertensions are chronic noncommunicable diseases that are the leading public health issues of the nation as per the research of Burden of Diseases and Burden of Diseases attributed to risk factors in Thailand, 2019, of the International Health Policy Program citing that these chronic communicable diseases leads to 70 percent of Thai deaths where Diabetes Mellitus is the second leading cause (No. 1 in females while NO. 3 in males). In addition, DM and hypertension are the causes of cardiovascular diseases such as myocardial ischemia, cerebral vascular diseases, retinopathy of prematurity and chronic renal diseases. To attain quality and standard care for DM and hypertensive patients, the NHSF had integrated budgets of Service budgets dispensed according to quality of service criteria (2 baht per beneficiary) and service budgets for prevention and treatment of DM and hypertension. The compensation indicators are per the quality of service delivered for DM Type 2 patients and Hypertensive patients presenting with 5 indicators with results (Table 2-22).

Table 2-22

Indicator for Quality and Outcome Framework of Diabetes Mellitus and Hypertension patients under UC scheme in the Year 2022

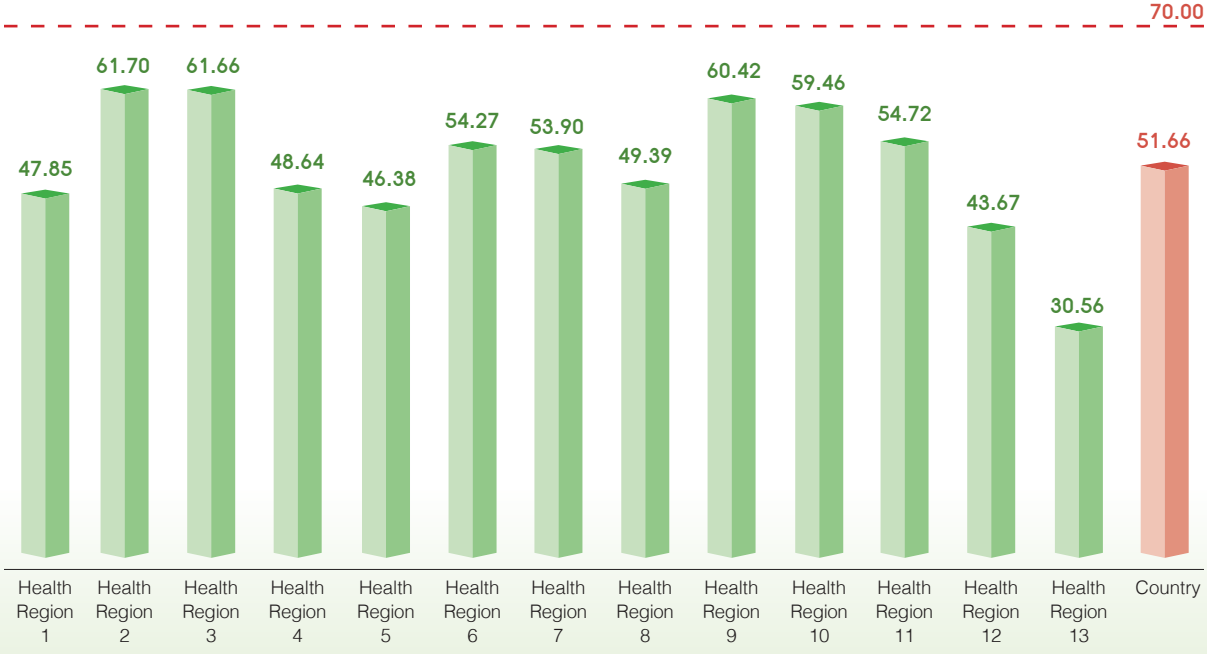
Indicator	Percent (%)
Percent of UC DM patients screened for HbA1c (target at 70 percent)	51.66
Percent of UC DM patients with good control of blood sugar (target at 40 percent)	27.26
UC DM suffering from acute complications	2.51
Percent of UC Hypertensive patients with good control of blood pressure (target at 60 percent)	54.79
Percent of DM/ Hypertensive patients screened for renal complications annually	53.92

Source: Fund Management Unit, and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1 July 2021-30June 2022, Analyzed on 4 February 2023

The 2022 year had found that 5166 percent of UC DM patients had been screened for HbA1c at least once a year as per the medical practice guidelines, which was lower than the target of 70 percent. The 3 districts with higher than 60 percent of screening consisted of Districts 2, 3 and 9 at 61.70, 616.66 and 60.42 percent, respectively while the district with the lowest HbA1c screening was District 13 at 30.56 percent (Figure 2-31)

Figure 2-31

Percentage of HbA1c Testing in Diabetes Mellitus patients under UC scheme classified by Health Region 1-13 and Total in the Year 2022

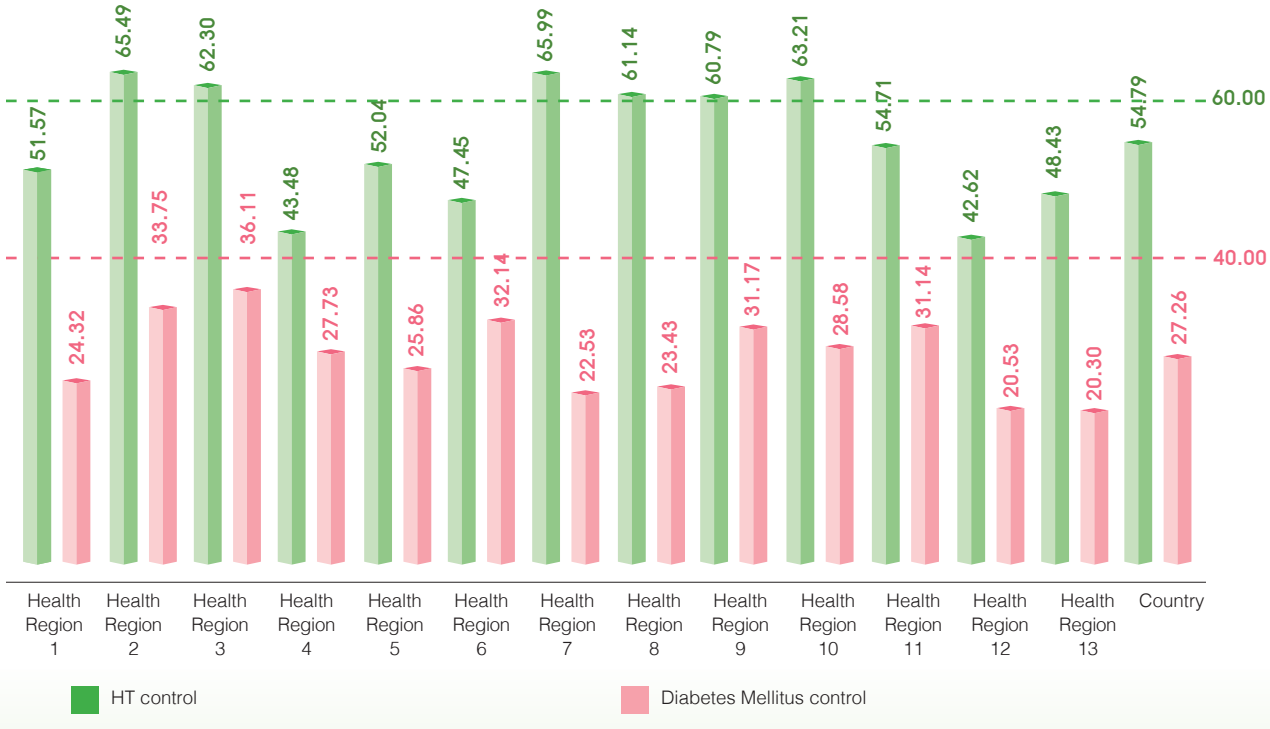


Source: Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1 July 2021-30June 2022, Analyzed on 4 February 2023

The goal of the treatments of DM and hypertension is for the patients to be able to control their blood sugar and blood pressure in the healthy levels to prevent future complications such as kidney diseases, retinopathy of prematurity, myocardial ischemia, or cerebrovascular diseases. Thailand has only 27.26 percent of citizens, who can control their blood sugar level, which is significantly below the target of 40 percent. The district with largest number of citizens controlling their blood sugar was District 3 (36.11 percent) followed by Districts 2,6,9 and 11 (33.75, 32.14, 31.17 and 31.14 percentages) while the districts with lowest number of citizens able to control their blood sugar levels were 13, 12, 7 and 8 at 20.30, 20.53, 22.53, and 23.43 percentages, respectively (Figure 2-32)

As for hypertensive patients, only 54.79 percent was able to control their blood pressure, which is lower than the target of 60 percent; districts that reached the target were 2, 3,7, 8, 9 and 10 while districts with least control of blood pressure were Districts 12 and 4 at 42.62 percent and 4348 percent, respectively (Figure 2-32).

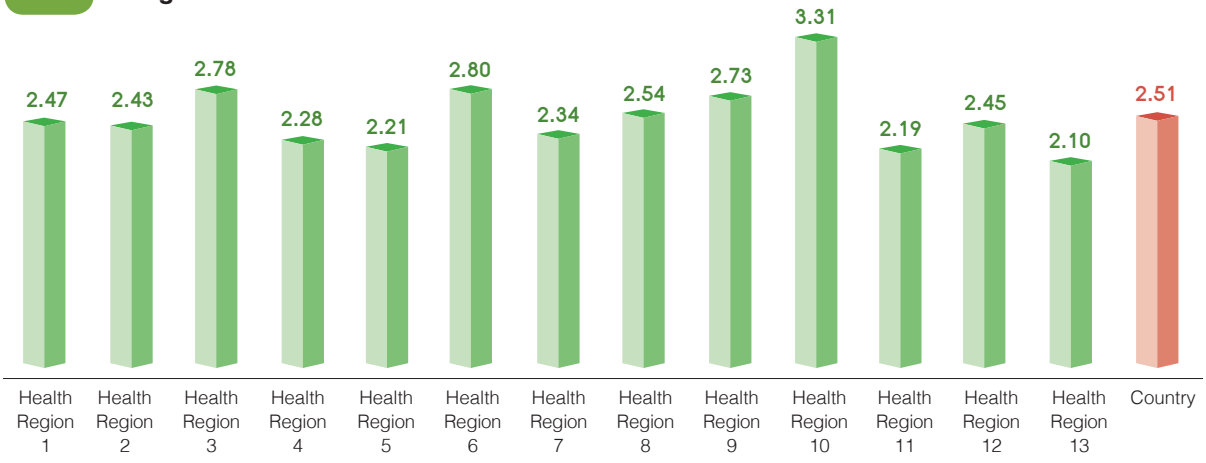
Figure 2-32 **Percentage of Diabetes Mellitus patients under UC scheme with HbA1c controlled and Hypertension patients under UC scheme with blood pressure-controlled HT classified by Health Region 1-13 and Total in the Year 2022**



Source: Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1 July 2021-30June 2022, Analyzed on 4 February 2023

For DM patients, there Is also the goal preventing complications such as hypoglycemia with or without coma, or hyperosmolar hyperglycemic state, Diabetic ketoacidosis, all of which could lead to life-or-death situations if immediate intervention is not immediately administered. As a nation, 2.51 percent citizens have faced with these complications and District 10 is the district with the highest complications (3.31 percent) while District 13 has the lowest (2.10 percent) (Figure 2-33).

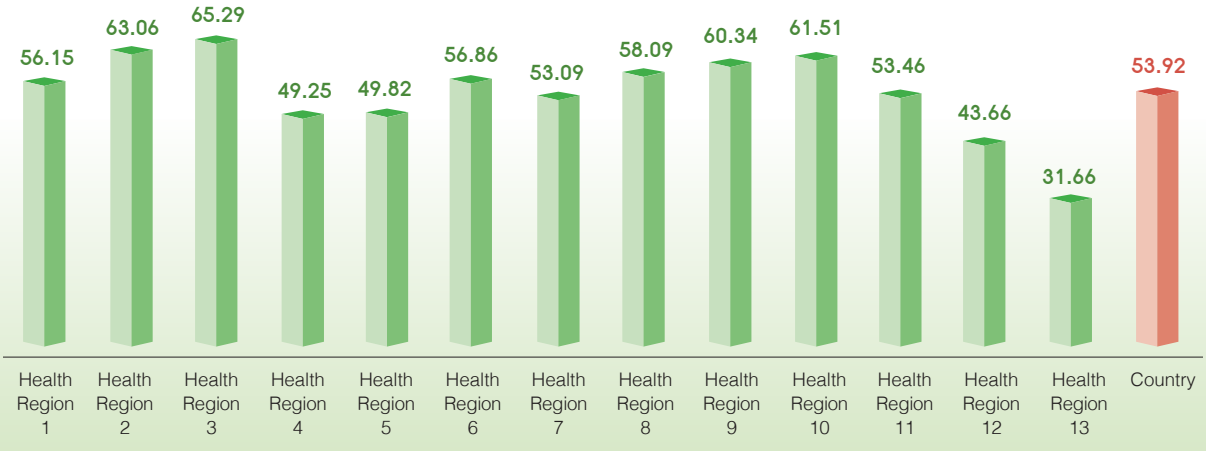
Figure 2-33 **Acute Complication rate of Diabetes Mellitus patients under UC scheme classified by Health Region 1-13 and Total in the Year 2022**



Source: Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1 July 2021-30June 2022, Analyzed on 4 February 2023

From the database of chronic renal diseases, it has been learnt that the majority of chronic renal diseases are as a result of DM and hypertension, therefore, it is vital that these patients are screened for chronic renal diseases. The DM and hypertensive patients are screened through blood testing for Serum Creatinine or urine testing for Urine Albumin. The year 2022 had seen 53.92 percent of citizens screened for kidney diseases and the district with the lowest screenings was District 13 at 31.66 percent while the highest was District 3 at 65.29 percent (Figure 2-34).

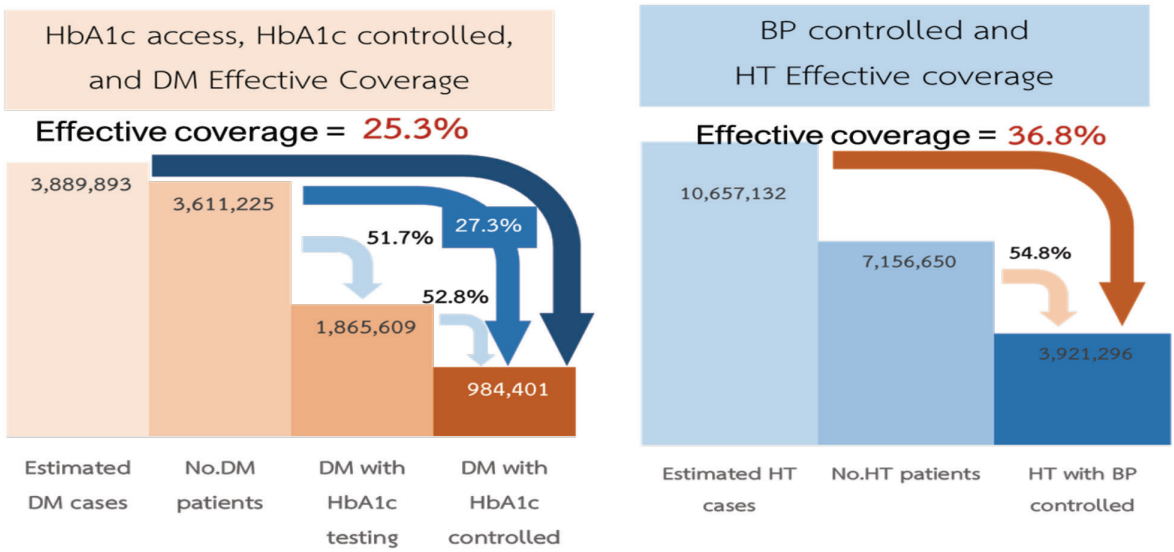
Figure 2-34 **Percentage of Serum creatinine Testing and Urine albumin Testing at least once a year for Diabetes Mellitus and Hypertension patients under UC scheme classified by Health Region 1-13 and Total in the Year 2022**



Source: Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1 July 2021-30June 2022, Analyzed on 4 February 2023

As per the quality of DM and hypertensive patients care, the coverage effectiveness for UC DM patients was at 25.31 percent and 36.80 percent for hypertensive patients (Figure 2-35). It can be seen that to increase coverage effectiveness, it is vital that the patients are tested for blood sugar levels, or HbA1c, and implementation of additional measures for DM patients to better control their blood sugar. Therefore, the NHSO with associated offices specifically the Diabetes Association of Thailand under the Royal Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn to adapt the financial strategies for 2022 to increase access for DM patients to HbA1c testing to 2 times per year; this benefit has helped doctors and patients better plan the medical treatment. As for hypertensive patients, it has been found that 48.8 percent of citizens are not aware that they are hypertensive consistent with the An Evaluation of the National Health Examination Survey in Thailand 6th report; hence, it has been suggested that there should be review and measures to support and promote access to more comprehensive blood pressure screening.

Figure **2-35** **Effective Coverage of Diabetes Mellites patients and Hypertension patients under UC Scheme in the Year 2022**



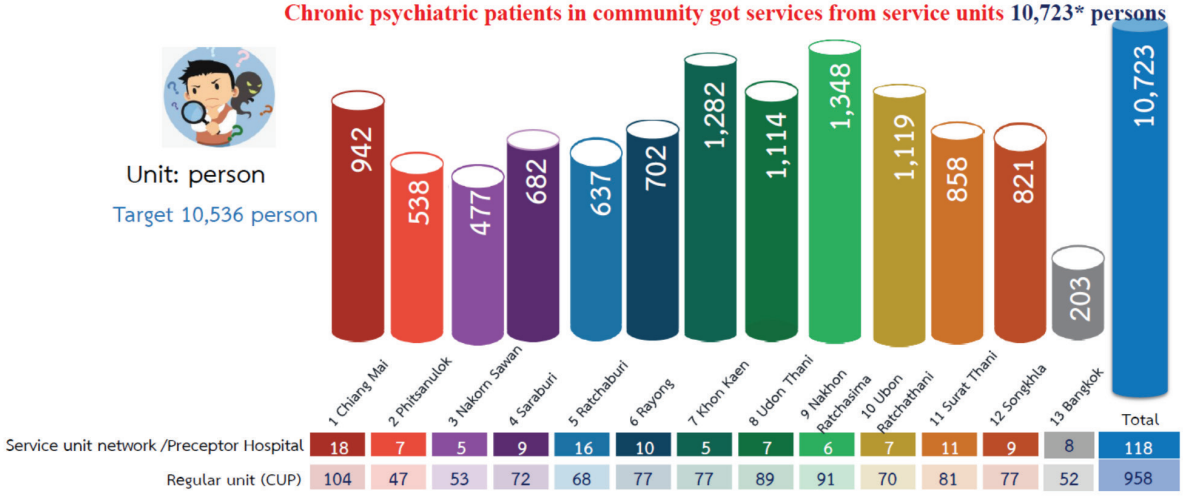
Source: *Fund Management Unit and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 1st July 2021-30th June 2022, Analyzed on 4 February 2023.*

Note: *Estimated DM patients and TB patients from Incidence of DM patient and HT patients from National Health Examination Survey, 6th, in the Year 2020.*

6.2.5 Service care for Chronic Psychiatric/ Schizophrenia patients in the community

For chronic psychiatric patients in communities to be monitored, rehabilitated and continuously cared for to attain a good quality of life with the end goal of living normally in the society, there has been a registration system established for the Individual Care Plan and a network had been created on all levels: community, regular units including host/caregivers (Psychiatric hospitals or regional hospitals or general hospitals with psychiatrists). In the 2022 fiscal year, funds had been allocated to 118 and host/caregivers units consisting of psychiatric hospitals, regional hospitals, provincial hospitals ready to provide such services and 958 network units consisting of contracted units and primary care units. These networks coordinated with communities to monitor, rehabilitate, and care for chronic psychiatric patients as per the Care Planned in various aspects as follows:1. Psychiatry, 2. Drug administration, 3. Caregiver/relative/family, 4. Daily tasks accomplishments, 5. Employment status, 6. Familial relationships, 7. Living environment, 8. Communication, 9. Basic learning skills, and 10. Alcohol/Drug usage.

Figure 2-36 **Service care for Chronic Psychiatric/ Schizophrenia patients in the community in the Fiscal Year 2022**

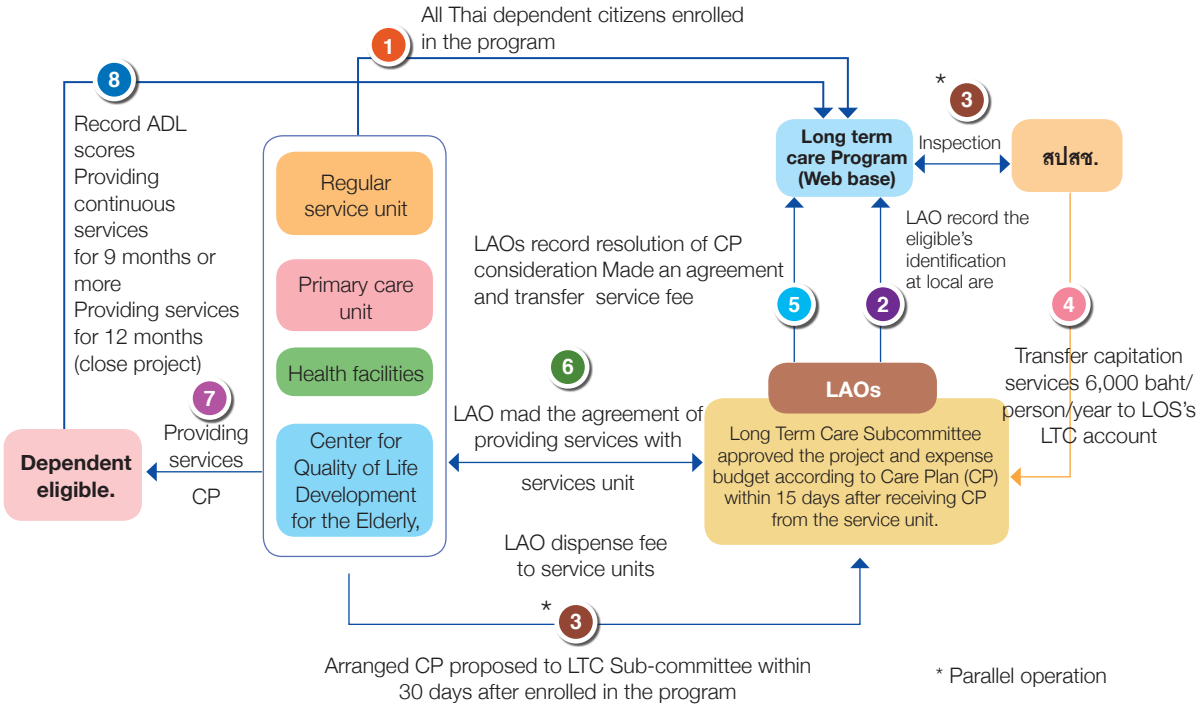


Source: *Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 9 October 2022*

Note: ** Results are of only chronically ill psychiatric patients receiving at least 6 times of monitoring and care as per the individual care plan for 10,723 patients of the registered 11,204 patients.*

6.2.6 Long-term care for dependent persons in the community

The budget dispersed for long term care for dependent persons in community is excluded from the capitation payment and in the fiscal year of 2022, a total of 990.108 million baht was earmarked for such services for citizens of all schemes. The goal for such care is for the dependent elderly (whose evaluation according to the Barthel ADL in regard to daily life performances is 11 or lower) to enjoy long term care at home or within the community made possible through the cooperation between all sectors namely households, communities, service units/ service centers/ elderly development centers in integration with the LAOs.

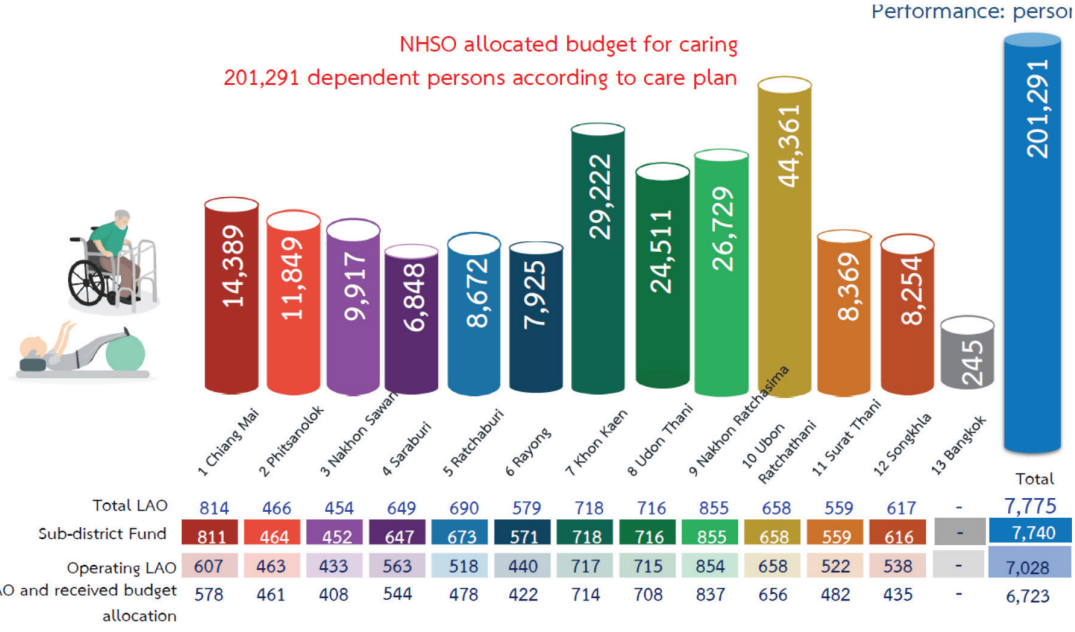


For the 2021 fiscal year, the NHSO, through Local Administrative Organizations, had financially sponsored the 6,723 Long Term Care centers (LTC) and the local National health security fund assigned for a total 7,028 LTCs, or 95.66 percent, while local service centers (contract units, primary care, community health centers, elderly health development centers) had provided care plan to 201,291 dependent elderlies from all schemes, of all ages and individual care plans. The elderly receiving can be classified into 176,553 individuals (87.71 percent) 60 years and above, and 24,738 individuals (12.29 percent) under 60 years; the UC bedridden patients were 176,374 individuals (87.62 percent) and 24,917 individuals (12.38 percent) from other schemes.

Of the 105,500 dependent elderly who had been evaluated for ADL, 94,372 (89.45 percent) had been cared for over 9 months; 20.63 percent had better ADL while those with the same ADL was at 60.30 percent and those with a lower ADL was at 19.07 percent (Figure 2-37) (Appendix Table 5-12)

Figure

2-37 **Budget Allocations for dependent persons in all schemes for LTC in the communities classified by Health region in the Fiscal Year 2022**



	1 Chiang Mai	2 Phitsanolok	3 Nakhon Sawan	4 Saraburi	5 Ratchaburi	6 Rayong	7 Khon Kaen	8 Udon Thani	9 Nakhon Ratchasima	10 Ubon Ratchathani	11 Surat Thani	12 Songkhla	13 Bangkok	Total
Total LAO	814	466	454	649	690	579	718	716	855	658	559	617	-	7,775
Sub-district Fund	811	464	452	647	673	571	718	716	855	658	559	616	-	7,740
Operating LAO	607	463	433	563	518	440	717	715	854	658	522	538	-	7,028
Operating LAO and received budget allocation	578	461	408	544	478	422	714	708	837	656	482	435	-	6,723

Source: Community Care Commissioning Cluster, NHSO. Data on 30 September 2022, Analyzed on 6 October 2022

6.2.7 Primary Health Care

The 2022 fiscal year has assigned 319.280 million baht for the development of primary health care as per the Primary Health Systems Act 2019 with family physicians in correct proportion to care for population to accomplish the vision of providing citizens with access to both community and service centers; the family physicians and team will cater to the outpatient as a family doctor. The forecasted target for primary health systems visits was 1,729,000 times, however, the actual visits were 1,745,633 times, or 100.96 percent.

(1) PCC

For Bangkok (NHSO Health Region 13) has family physicians for primary care and the health region out of Bangkok (Health Regions 1-12), there has been a revision of registration criteria and the establishment of family clinics of which the assessment and registration is conducted under the supervision of the Office of the Primary Care Cluster, Ministry of Public Health, for the 2022 year and 1,295 family clinics have been allocated budgets. There were 844,436 home visits (115.67 percent) by primary health care centers offering family care services from targeted 730,069 visits *(Source: Fund Management Unit and Monitoring and Evaluation Cluster. Data on 30th September, 2022; Analyzed on 26th February, 2023)*

Additionally, the 1,263 family medicine PCCs of all Regions 1-13 had conducted 1,510,209 health promotion within the service units or domiciles-visits classified as follows:

- Health Regions 1-12: Operated by 579 regular clinics, 1,101 PCCs in coordination with 2,308 network service PCCs offering services consisting of 1. 22,846 antenatal cares for pregnant women, 2. 575,173 screenings for cervical cancer, 3. 784,503 administration of the flu vaccines totaling to 1,382,522 times

- Bangkok, NHSO Health Region 13: Operated by 164 PCCs offering these services: 1. 952 antenatal cares for pregnant women, 2. 53,920 screenings for cervical cancer, 3. 72,815 administrations of the flu vaccines totaling to 127,687 times.
- (Source: Fund Management Unit and Monitoring and Evaluation Cluster. Data on 30th June, 2022; Analyzed on 14th September, 2022)

(2) New normal

NHSO, MoPH and service providers has encouraged Social Distancing including the New Normal lifestyle through provided services out of service units and instead in communities to prevent congestion in the service units, decrease waiting time, decrease financial travelling burden to clinics, decrease probability of COVID-19 infection. The office had implemented 5 new services at 901,197 times (90.21 percent) from targeted 999,000 times:

1. Medication and supplies:

As per the policy of the Minister of Public Health in FY 2020 regarding the decrease of congestion whilst waiting for drugs within the hospitals, patients suffering from diabetes, hypertension, asthma and psychiatric including other chronic diseases without complications could voluntarily receive their medication from pharmacies, however, the medication must be the same as they would have received from the hospital. The service was conducted free of charge and in three models:

Model 1. The hospital would arrange medication for each and deliver to an NHSO drugstore with compensation of 70 baht per preparation.

Model 2. The hospital would prepare a set of medication for the patient with compensation of 80 baht per preparation.

Model 3. The pharmacies would arrange the medication with a compensation of 90 baht per preparation.

The 2022 FY had 459 pharmacies that participate in the service; there were 26,818 patients receiving medication at the pharmacies 65,893 times. From FY 2020-2022, 841 pharmacies participated in the service with 59,403 patients visiting the pharmacies to pick up their medication at 184,720times (Appendix Table 5-13).

2) Drug Delivery/ Postal Medicine

In operation since April 2021, the NHSO with the Thailand Post Company Limited (THP) in collaboration with the UC's MoPH-affiliated units including medical schools had participated in the postal delivery of patients' medication; the NHSO was liable for the postage fee of 50 baht / package.

The 2022 FY had 225 service units jointly delivered drugs and medical supplies to patients. The number of patients that received postal medication was 315,711 at 635,087 times; from 2020-2022, there were 313 services units jointly delivering medication and supplies to 652,182 patients at 1,501,586 times (Appendix 5-14).

3) Telehealth/Telemedicine was initiated in 2021 as per the standards depicted by the council, or the Ministry of Public Health, for old patients whose conditions are stable and controllable; the NHSO was liable for 30 baht / call for in 2021-2022 but was increased to 50 baht per call in 2022 FY.

The 2021 FY had seen 70 units offering telehealth/ telemedicine services to 106,587 patients utilizing the services. From 2021-2022, there were a total of 72 units offering the services to 71,732 individuals at 184,076 times (Appendix 5-15).

4) Out-of-service-units laboratory testing services also pioneered in 2021 for ease and reduction in waiting time during blood tests visits including to decrease over-crowdedness in hospitals and to also support the telehealth/telemedicine program, laboratory tests were conducted out of service units for old, chronic patients; the expenses were liable by the NHSO at 80 baht per time.

There were 16 hospitals that participated in the services for 2022 FY and had been registered with

the Department of Medical Science, Ministry of Public Health. Citizen could receive blood tests and send samples for testing at out-of-service-units laboratories. A total of 65,454 tests were completed for 43,267 individuals while for 2021-2022 FY, the samples were sent to 17 host service units, where 53,311 patients received testing at 95,009 times (Appendix 5-16).

5) Nursing and Midwifery services. Initiated in 2021, where nursing and midwifery clinics had providing services namely basic nursing services as per individual care plan, health services for patients at home, administering medication according to treatment plan such as inserting urinary catheters, gastric catheters, injections, and wound dressing/ suturing.

The 2022 FY had 48 nursing and midwifery clinics offering 28,176 services to 10,922 patients while from 2021-2022 FY, there were a total of 48 nursing and midwifery clinics offering 28,501 services to 10,932 patients (Appendix 5-17)

(Source: E-Claim Review and Monitoring Web Report, NHSO Fund service, as of September 30th, 2021; Analyzed of 20th January, 2022).

6.2.8 Compensation for Remote and Hardship Areas and Southern Border Provinces

The NHSO in 2022 FY had sponsored the expenses for 186 service units in remote and hardship areas including the Southern border provinces at an amount of 1,490.288 million baht of which the criteria payment for 163 service units in remote and hardship areas was at 866.013 million baht and the second criteria being 57 service units in the Southern province at 624.275 million baht while 38 service units received payments from both criteria (Table 2-23).

Table 2-23 **Remote and hardship areas and Southern border provinces that received compensation to improve efficiency classified by Health region in the Fiscal Year 2022**

Unit : (unit)

Health Region	Remote /hardship	Southern border
Region1	32	-
Region2	11	-
Region3	3	-
Region4	-	-
Region5	5	-
Region6	10	-
Region7	5	-
Region8	19	-
Region9	11	-
Region10	15	-
Region11	17	-
Region12	40	57 *
Total	**168**	**57**

Source: *Fund Management Unit, NHSO. Data on 30 September 2022*

Note: **The service unit that had received compensation as per the criteria in the Southern Border Provinces was NHSO Health Region 12, Songkhla 57 units of which 38 units had received compensation as per the remote and hardships areas criteria*

6.2.9 Liability Compensation for Patients and Healthcare Providers

In regards to compensation to beneficiaries after having suffered damages from the health service units as specified in Article 41 of the National Health Security Act, the fiscal year 2021 had seen 1,314 beneficiaries, who had made complaints, and of whom 1,118 had received 291.419 million baht in compensation classified as follows: 658 deaths/ decrepit (58.56 percent) at 235.386 million baht, 109 organ damage/ disability (9.75 percent) at 23.558 million baht and 351 injured/chronic illnesses (31.40 percent) at 23.278 million baht including appeal cases at 9.196 million baht (Table 2-24).

As for **preliminary financial assistance to health providers in cases of damages after services** as declared in the governmental gazette on 28th March, 2018; in 2022, there were a total of 11,553 complaints of which 11,165 complaints were compensated a total of 122.582 million baht. The amount is classified as follows: 4 deaths/decrepit (0.04 percent) at 1.600 million baht, 11,161 injured/chronic illnesses (99.96 percent) at 120.856 million baht including appeal cases at 0.126 million baht; finally, there was another 10,865 individuals, or 97.31 percent, compensated for damages incurred from COVID-19 (Table 2-22).

Table 2-24 **Harmed patients and Liability compensation in the Fiscal Year 2018-2022**

Compensation for patients	2018	2019	2020	2021	2022
1. Lodging petition: cases	1,158	1,188	1,079	1,026	1,314
2. Receiving compensation: cases	927	970	903	845	1,118
- death/complete disability: cases	415	466	438	421	658
- organ loss/partial disability: cases	110	126	119	104	109
- injury/continuing illness: cases	402	378	346	320	351
3. Compensation: Million Baht	202.156	228.014	213.957	208.259	291.419

Source: People Engagement and Entitlements Protection Cluster, NHSO, Data on 30 September 2022

Table 2-25 **Harmed healthcare providers and Liability compensation in the Fiscal Year 2018-2022**

Compensation for healthcare providers	2018	2019	2020	2021	2022
1. Lodging petition: cases	511	538	590	760	11,553
2. Receiving compensation: cases	427	464	528	677	11,165
- death/complete disability: cases	3	3	2	4	4
- organ loss/partial disability: cases	-	3	1	-	-
- injury/continuing illness: cases	424	458	525	673	11,161
3. Compensation: Million Baht	6.305	7.005	6.254	9.873	122.582

Source: People Engagement and Entitlements Protection Cluster, NHSO, Data on 30 September 2022

Compensation for harmed persons from health services (as per Section 41 of National Health Security Act)

The table 2-26 presents the liability compensation for harmed persons from health services (as per Section 41 of the National health Security Act 2002) for the 2007-2022 FY.

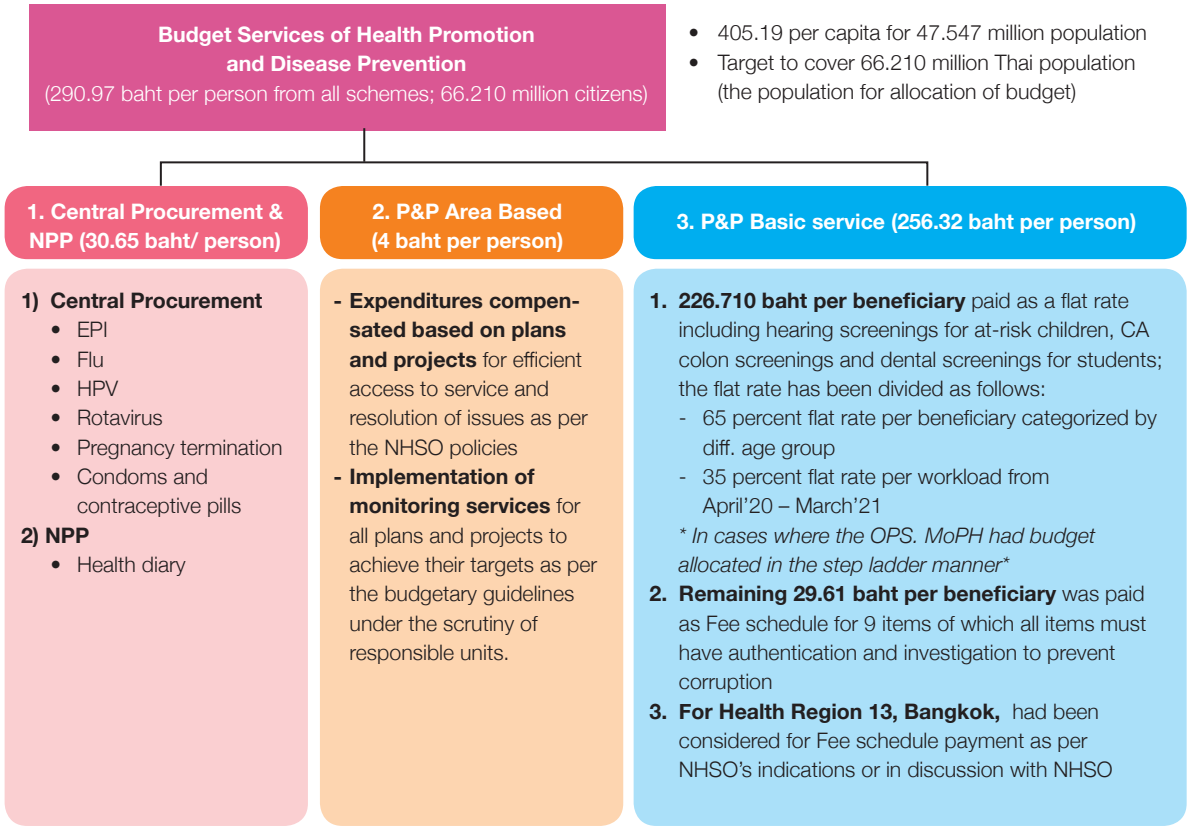
Table 2-26 **Number of harmed patients and liability compensation in Fiscal Year 2004-2022**

Fiscal Year	Com-plaints (numbers)	Ineligible (numbers)	Eligible (numbers)				Appeal (numbers)	Amount (Baht)
			Total	Deaths (Type 1)	Decrepit (Type 2)	Injured (Type 3)		
2004	99	26	73	49	11	13	12	4,865,000
2005	221	43	178	113	29	36	32	12,815,000
2006	443	72	371	215	71	85	60	36,653,500
2007	511	78	433	239	74	120	59	52,177,535
2008	658	108	550	303	73	174	74	64,858,148
2009	810	150	660	344	97	219	67	73,223,000
2010	876	172	704	361	139	204	72	81,920,000
2011	965	182	783	401	141	241	114	92,206,330
2012	951	117	834	401	140	293	88	98,527,000
2013	1,182	187	995	533	125	337	98	191,575,300
2014	1,112	181	931	478	116	337	112	218,439,200
2015	1,045	221	824	442	105	277	82	202,929,300
2016	1,069	184	885	457	118	310	102	212,952,000
2017	1,108	201	907	461	99	347	96	222,026,900
2018	1,158	231	927	415	110	402	142	202,156,100
2019	1,188	218	970	466	126	378	153	228,013,900
2020	1,079	176	903	438	119	346	87	213,957,100
2021	1,026	181	845	421	104	320	156	208,258,700
2022	1,314	196	1,118	658	109	351	120	291,418,700
Total	**16,815**	**2,924**	**13,891**	**7,195**	**1,906**	**4,790**	**1,726**	**2,708,972,713**

Source: People Engagement and Entitlements Protection Cluster, NHSO, Data on 30 September 2022

6.2.10 Services of Health Promotion and Disease Prevention

Figure 2-38 **Budget Services of Health Promotion and Disease Prevention Services per person under all schemes in the Fiscal Year 2022**



Health Promotion and Disease Prevention Services for 2022 FY compensation when compared to target, it has been found that the services with higher than targeted results were terminating unsafe pregnancies (Induced abortion) (297.78 percent) while service that performed poorly were eyeglasses for children with abnormal vision (22.64 percent) since this is a new benefit added in the mid-2022 FY (Table 2-27). When compared to performances in FY 2021, the FY 2022 had 3 services that had better performances starting with termination of unsafe pregnancies (Induced abortion) increased from 41.03 percent to 297.78 percent followed by temporary contraceptives (IUD/Implanted contraception) for 20 years and above females increased from 23.10 percent to 218.93 percent and screenings for Down Syndrome in pregnant women increased from 150.27 percent to 183.34 percent. As for performances that had decreased in FY 2021 were screenings for CA Cervix, which had the largest decrease, from 85.17 percent to 41.47 percent followed by blood testing for Thalassemia in pregnant women and husband decreased from 84.20 percent to 62.12 percent, and temporary contraceptive (IUD/ Implanted contraception) in females under 20 years old decreased from 102.49 percent to 91.68 percent. The causes for the decrease were due to the COVID-19 pandemic where the service units had postponed service to prevent risk of infections (Table 2-28); additionally, certain items had been shifted to capitation payment such as fluoride varnish for children (4-12 years) and dental sealant for children (6-12 years).

Table 2-27

Performances of Health Promotion and Disease prevention disbursement under all schemes in the Fiscal Year 2022

PP Fee Schedule	Fiscal Year 2022				
	Targets: persons	Outputs: persons	%	Outputs: visits	Service Units: units
1. Antenatal care: ANC	344,300	383,894	111.20	1,506,106	3,242
- Antenatal Care		339,742		1,318,348	
- Dental in Pregnancy		84,237		119,006	
- Ultrasound service		187,729		286,267	
2. Screening for down syndrome in pregnancy	103,290	189,369	183.34	189,369	910
- Quadruple test		189,346		189,346	
- Pregnancy termination		229		229	
3. Thalassemia testing in pregnancy and couple	96,404	59,887	62.12	63,742	409
- Hb Typing in pregnant women		59,484		59,721	
- Hb Typing in husband of pregnant women		3,776		3,832	
- Pregnancy termination		186		189	
4. Thyroid Stimulating Hormone test in newborn	477,024	426,401	89.39	459,551	11
- Neonatal screening for congenital hypothyroidism and phenylketonuria		426,401		459,513	
- Screening for hypothyroidism		34		38	
5. Screening CA Cervix	1,743,600	723,144	41.47	841,877	1,461
- HPV cervical cancer screening		606,981		684,894	
- Pap Smear/VIA		126,041		156,850	
- Colposcopy		665		697	
6. Semi-permanent contraception in women < 20 years of age	37,274	34,173	91.68	37,900	818
- Implanted contraceptives		34,104		37,823	
- IUD		71		77	
7. Semi-permanent contraception in women >=20 years of age, in cases Induced Abortion	4,280	9,370	218.93	10,245	418
- Implanted contraceptives		9,139		9,996	
- IUD		234		249	
8. Induced abortion	6,886	20,505	297.78	21,608	85
- Medabon Induced abortion		15,311		16,187	
- Manual Vacuum Aspiration (MVA)		5,191		5,374	
- Electric Vacuum Aspiration (EVA)		15		17	
- Other		30		30	
9. Eyeglasses service for children with abnormal vision	10,210	2,312	22.64	2,578	52
- Stock lens		2,091		2,337	
- Lab lens		224		241	

Source: Fund Management Unit, NHSO and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022, Analyzed on 15 March 2023

Table **2-28** **Performances of Health Promotion and Disease prevention disbursement under all schemes in the Fiscal Year 2020-2022**

PP Fee Schedule	Fiscal Year 2020			Fiscal Year 2021			Fiscal Year 2022				
	Targets: visits	Outputs: visits	%	Targets: visits	Outputs: visits	%	Targets: visits	Outputs: visits	%	Outputs: persons	Service Units: units
1. Antenatal care: ANC)	1,860,522	1,760,273	94.61	2,087,554	2,362,483	113.17	1,707,310	1,506,106	88.22	383,894	3,242
2. Screening for down syndrome in pregnancy	200,034	154,773	77.37	206,000	261,583	127.00	206,580	189,369	91.67	189,369	910
3. Thalassemia testing in pregnancy and couple	106,400	93,524	87.90	111,076	85,250	76.75	96,404	63,742	66.12	59,887	409
4. Thyroid Stimulating Hormone test in newborn	622,303	435,985	70.06	613,316	350,805	57.20	477,024	459,551	96.34	426,401	11
5. Screening CA Cervix	2,257,345	1,922,575	85.17	1,609,297	822,301	51.10	1,743,600	841,877	48.28	723,144	1,461
6. Semi-permanent contraception in women < 20 years of age	41,636	34,171	82.07	33,340	20,568	61.69	37,274	37,900	101.68	34,173	818
7. Semi-permanent contraception in women >= 20 years of age, in cases Induced Abortion	24,075	3,465	14.39	15,001	2,959	19.73	4,280	10,245	239.37	9,370	418
8. Prevent of unsafe abortion	23,196	4,924	21.23	12,000	5,294	44.12	6,886	21,608	313.80	20,505	85
9. Eyeglasses service for children with abnormal vision	Effective from February, 2565						10,210	2,578	25.25	2,312	52
10. Dental for Fluoride coating in children 4-12 years of age	2,005,740	3,382,535	168.64	994,400	2,141,569	215.36	อยู่ในรายการเหมาจ่ายรายหัว				
11. Dental Sealant in children 6-12 years of age	1,046,110	1,234,668	118.02	3,113,790	488,057	15.67	อยู่ในรายการเหมาจ่ายรายหัว				

Source: Fund Management Unit, NHSO and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022, Analyzed on 15 March 2023

7. Premium Care Policy for UC Scheme, enhancing four healthcare services under the Universal Coverage Scheme

The Universal Coverage Scheme's committee approval of the "Upgrade 4 services under Gold Card to New Era of Health Security" to increase efficiency and access for citizens to UC (Gold Card) as of October 5th , 2020, comprises of 4 services in the FY 2022:

1. UCS members in Bangkok can receive services from family doctors in any primary care facilities under the Gold Card system, or "OP Anywhere": initially, each UC beneficiary were only able to receive care in their designated area, but now each beneficiary can receive treatment in any primary unit at any designated area. To sustain such addition, the Ministry of Public Health and Bangkok had enlarged the number of primary care units made possible through the database application providing information on family doctors and additional patients including self-validation through one's identification number (Smart Card). 2021 year had seen pilots in NHSO Health Region 13 Bangkok and NHSO Health 7-10 while in 2022, the service was expanded nationwide.

In fiscal year 2022, 182,187 citizens had elicited services at 1,057 Primary Health Centers at 246,448 times of which 168,890 times (68.53 percent) were visits made to non-designated, provincial units, 44,433 times (18.03 percent) at non-provincial units, and 33,125 times (13.44 percent) in non-designated areas.

Since the implementation of the policy from 2021-2022, 209,494 UC beneficiaries had used services at 1,104 Primary Health Centers at 303,544 times of which 209,494 times (69.02 percent) were visits made to non-designated, provincial units, 57,853 times (19.06 percent) at non-provincial units, and 36,197 times (11.92 percent) in non-designated areas (Appendix table 5-18).

(Source: Fund Management Unit, NHSO and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022, Analyzed on 20th January, 2023).

2. No referrals needed for benefits validation nationwide, or "IP Anywhere": formerly, Gold Card inpatients would need referral forms in case of expiration and patients would need to travel to their contracted unit to get a new form, thus, having to shoulder additional travelling costs, particularly, for patients who have to cross state lines. This new system allows each beneficiary to continuously be treated as per the diagnosis of the physician without having to return to their regular unit and would require only their identification card. 2021 year had seen pilots in NHSO Health Region 13 Bangkok and NHSO Health Region 9 Nakhorn Ratchasima before nationwide implementation in 2022.

In the 2022 fiscal year, the continuous inpatients services provided without referral forms were at 1,659,051 times, or 34.88 percent when compared to the services elicited by inpatients at 4,755,937 times excluding patients in home isolation/ community isolation (HI-CI). 1,259,875 times (75.94 percent) were visits made to non-designated, provincial units, 171,965 times (10.37percent) at non-provincial units, and 227,211 times (13.70 percent) in non-designated areas.

Since the implementation of the policy in 2021-2022, beneficiaries received inpatients services without referral forms at 1,845,174 times, or 34.70 percent when compared the services elicited by inpatients at 5,316,994 times excluding HI-CI. 1,418,706 times (76.89 percent) were visits made to non-designated, provincial units, 183,482 times (9.94 percent) at non-provincial units, and 242,986 times (13.70 percent) in non-designated areas (Appendix 5-19).

(Source: Fund Management Unit, NHSO and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022, Analyzed on 20th January, 2023).

3. Cancer Anywhere or "CA anywhere": Cancer is an illness that requires immediate care to control cancer development stage and spread of the disease but complicated referral processes and high volume and diversity of patients in each hospital are obstacles to access and thus, immediate treatment. The new system will allow patients to achieve care faster and more conveniently. Each patient will receive all forms of treatment such as surgery, chemotherapy, radiation, hormonal therapy as per the 20 treatments protocol and general treatment for cancer. Each patient diagnosed with cancer will receive a medical certificate and history, or Code, to apply for care through NHSO 1330 Contact Center, NHSO application, or directly contact units capable of such treatments without the need of referral forms. Telehealth, tephramancy and home chemotherapy have been added under the partnership with Department of Medical Services, who had created a nationwide database ready for usage on January 1st , 2021. This database will allow integration of data through these 4 programs: 1. Thai Cancer Based that had expanded to TCB Plus for patients registration and referral, 2. The One Program to manage queues for radiological examinations and treatments with radiotherapy and chemotherapy, 3. DMS Bed Monitoring for hospital bed management, and 4. DMS Telemedicine for patients to receive tele-consult with doctors, make appointments for receiving medication and monitor drug deliveries.

The 2022 fiscal year had seen 201,061 cancer patients, who could receive treatment anywhere, at 1,316,814 times at 176 services units capable of such treatments. 193,729 visits, or 14.71 percent, were made to their designated service units, 669,070 visits, or 50.81 percent, were non-designated, provincial units, 234,279 visits, or 17.79 percent, were made to non-provincial units but in the health region, and 219,736 visits, or 16.69 percent, were made non-health regions.

Since the implementation of the policy from 2021 to 2022, there had been 227,435 cancer patients, who could receive treatment anywhere, at 189 services units capable of such treatments. 316,154 visits, or 15.57 percent, were made to their designated service units, 1,021,628 visits, or 50.33 percent, were non-designated, provincial units, 361,293 visits, or 17.80 percent, were made to non-provincial units but in the health region, and 330,965 visits, or 16.30 percent, were made non-health regions (Appendix Table 5-20).

(Source: Fund Management Unit, NHSO and Monitoring and Evaluation Cluster, NHSO, Web Report Management Information System for Monitoring and Evaluation. Data on 30 September 2022, Analyzed on 25th January, 2023).

4. UCS members can change their registered hospitals instantly, as opposed to waiting 15 days: initially, every change of unit required a mandatory 15-days wait or would occur only on the 28th of every month, preventing patients from receiving care in their domiciles. Currently, the NHSO had developed a registration on its mobile application, or on computer devices, for citizens to self-change their units and to receive such benefit within the day with validation through their identity card (smart card) but beneficiaries can change only up to 4 times per year; the project was executed on 1st January, 2021.

The 2022 fiscal year had seen a total of UC beneficiaries changing their units at 1,596,017 times of which 1,225,833 times, or 76.81 percent, were through their regular units, 370,184 times, or 23.19 percent, through the NHSO mobile application or Line Application, 224,316 times, or 14.05 percent, had utilized their benefit a day after applying for transfer of unit. 11.10 percent of beneficiaries had utilized services at the new unit, 3.19 percent of beneficiaries had visited the new unit 2-7 days after application for change and 2.21 percent visited the new units after 8-12 days.

(Source: Data IP services from IP-E-Claim, Data OP services from OP-E-Claim and data from Registration of Service Unit, Monitoring and Evaluation Cluster, NHSO as of 31st January, 2022 and Analyzed by 6th February, 2023).

8. Effectiveness and Quality of care

1) Caesarean section

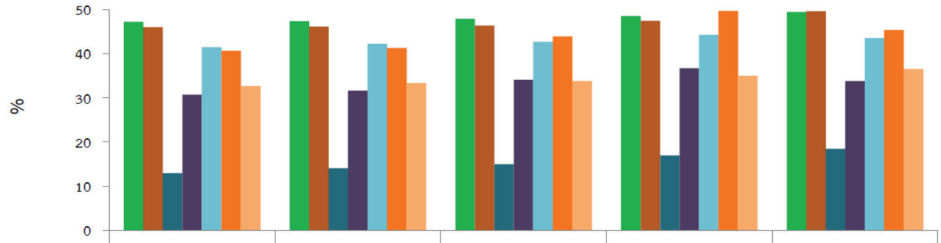
The World Health Organization (WHO) promotes natural delivery due its lower loss of blood, faster recovery, and faster return to normalcy, and had set the rate of caesarean section at not higher than 15 percent while natural deliveries to be 80-90 percent. In the 2022 fiscal year, there was a general increase in UC's caesarean section at 36.54 percent, while the provider with the highest caesarean section performed at regional hospital (49.49 percent) followed by provincial hospitals (49.69 percent), private hospitals (45.45 percent) and medical schools (43.62 percent) (Figure 2-39).

2) Ambulatory Care Sensitivity Condition: ACSC

ACSC are conditions where admissions/ unnecessary hospitalizations may have been prevented by proper primary care interventions. The cases that must receive care are diabetes mellitus, high blood pressure, asthma, chronic obstructive pulmonary diseases (COPD) and epilepsy. The 2021-2022 had seen a decrease in admissions of all 5 diseases amongst 100,000 UC beneficiaries particularly, asthma and COPD. This was possibly due to patients receiving the correct medication specifically, increased prescriptions of steroidal inhalers and from the COVID-19 pandemic that had enforced mask-wearing and social distancing decreasing airway infection; all of which are factors contributing to the decreasing symptoms. A significant performance in 2022 was a decrease in admissions for hypertensive patients when compared to the former year (Figure 2-40).

Figure 2-39

Percentage of delivery with the cesarean section under the UC scheme classified by level of healthcare units and hospital type in the Fiscal Year 2018-2022



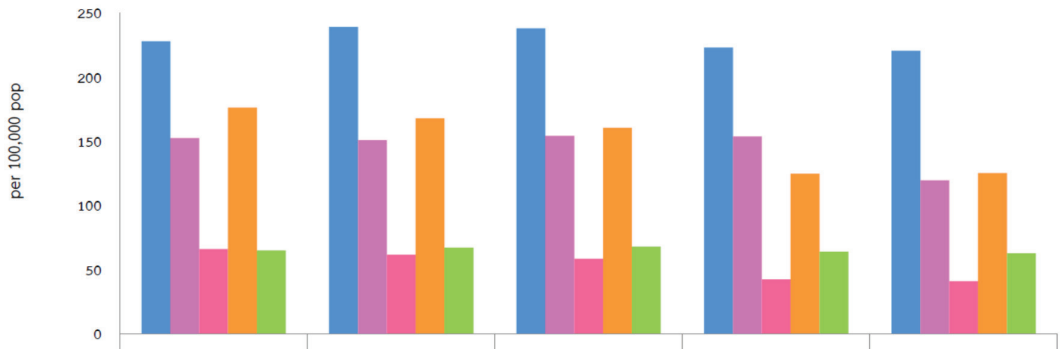
	2018	2019	2020	2021	2022
Regional hospital	47.26	47.43	47.97	48.60	49.49
Provincial hospital	46.04	46.16	46.45	47.51	49.69
District hospital	12.91	14.06	15.00	16.97	18.48
MoPH hospital	30.78	31.68	34.11	36.76	33.81
Medical school	41.52	42.28	42.74	44.32	43.62
Non - MoPH hospital	40.68	41.31	43.97	49.72	45.45
Total	32.68	33.41	33.85	35.03	36.54

Source: *Data IP services from IP E-claim, Data on 30 September 2022, analyzed by Monitoring and Evaluation Cluster, NHSO, on 6 March 2023*

Note: *Data analysis was based on hospital type in the FY 2022 and through retrospective data processing*

Figure 2-40

Admission rate per 100,000 population of Ambulatory Care Sensitivity Condition: ACSC patients in the Fiscal Year 2018-2022



	2018	2019	2020	2021	2022
DM	227.98	239.20	238.08	223.20	220.66
HT	152.51	150.96	154.26	153.82	119.68
Asthma	66.08	61.60	58.57	42.40	41.03
COPH	176.39	167.97	160.49	124.90	125.17
Epilepsy	64.93	67.14	67.94	63.94	62.66

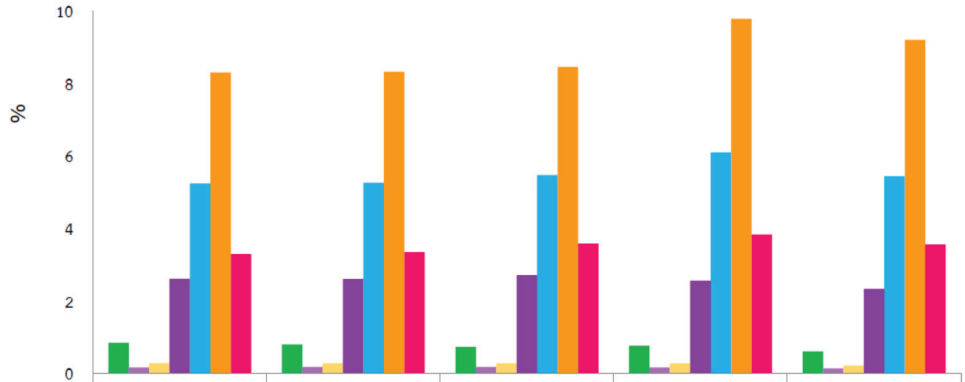
Source: *1) NHSO Health Service Indicator Report (H0301), Data on 30 September 2021, analyzed by Monitoring and Evaluation Cluster, NHSO, on 5 February 2023*

2) Data services of Epilepsy patients from IP E-claim, Data on 30 September 2022, analyzed by Monitoring and Evaluation Cluster, NHSO, on 6 March 2023

3) Inpatient Fatality Rate

Inpatient Fatality Rate is an index that reflects healthcare services, healthcare management and surveillance and it has been learnt that deaths in UC inpatients have slightly increased, particularly, the elder at 60-69 age group and above 70 years group of which the mortality rate is higher than 2018-2020. However, there was a significant decrease in mortality in every other age group (Figure 2-41).

Figure **2-41** **Fatality Rate of UCS Inpatients classified by age groups in the Fiscal Year 2018-2022**



	2018	2019	2020	2021	2022
less than 1 year	0.85	0.80	0.74	0.77	0.61
1-4 years	0.17	0.18	0.18	0.17	0.14
5-14 years	0.29	0.28	0.28	0.28	0.22
15-49 years	2.61	2.61	2.71	2.56	2.33
60-69 years	5.24	5.27	5.48	6.10	5.44
70 and over	8.30	8.32	8.45	9.79	9.20
Total	3.30	3.35	3.59	3.83	3.56

Source: *Data IP services from IP E-claim, Data on 30 September 2022, analyzed by Monitoring and Evaluation Cluster, NHSO, on 6 March 2023*

Notes: *1. Excluding Well Baby delivered in hospitals (Code Z380)*

2. Data analysis was based on hospital type in the FY 2019 and through retrospective data processing

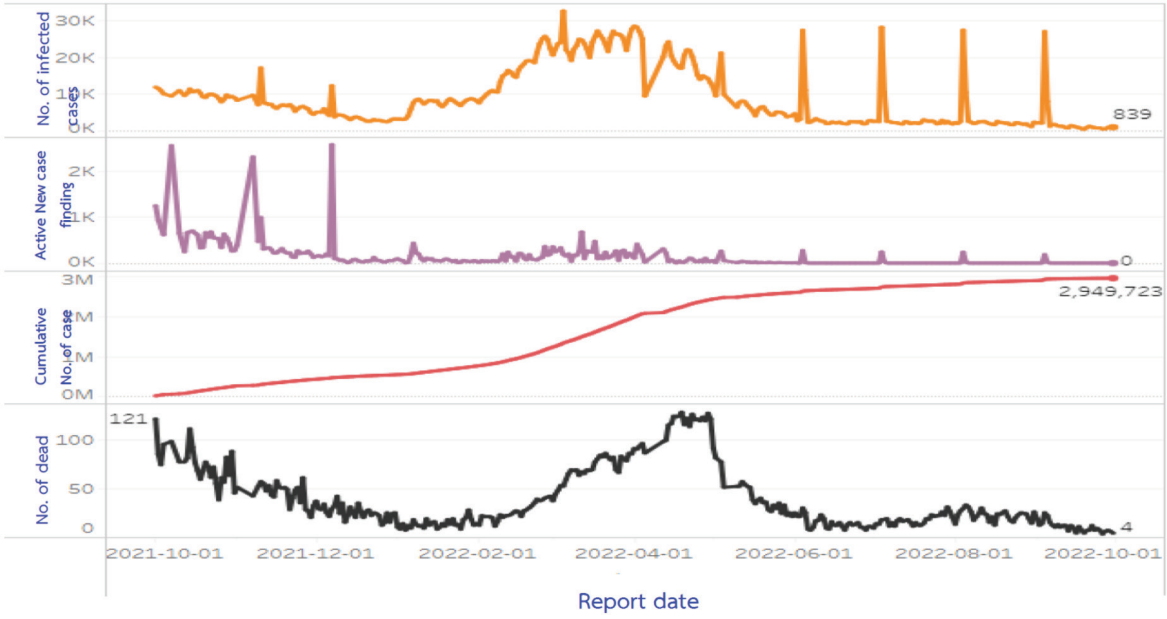
9. Health Financing for COVID-19 Health Service under Universal Coverage Scheme, Fiscal Year 2022

9.1 Situation of COVID-19

The 2022 fiscal year had seen a different wave of COVID-19 worldwide due to an increase rate of transmission due to the Omicron strain whose transmission and infectious rate was stronger when compared to other strains but the severity of the disease as a whole had decreased. However, the government had continuously released measures to monitor and control the diseases, motivated citizens to get vaccinated including created awareness for citizens to live their lives in the New Normal while also turning COVID-19 into an endemic disease (Figure 2-42).

On 1st October, 2022, the MoPH had declared COVID-19 as an endemic disease and no longer a severe disease but a disease to be watched for. Hence, the NHSO had revised service compensation models including adapting other guidelines to the current situation. Citizens still have access to prevention, treatment, and alleviation of COVID-19 disease.

Figure **2-42** **Situation and trend of COVID-19 infection in Thailand**



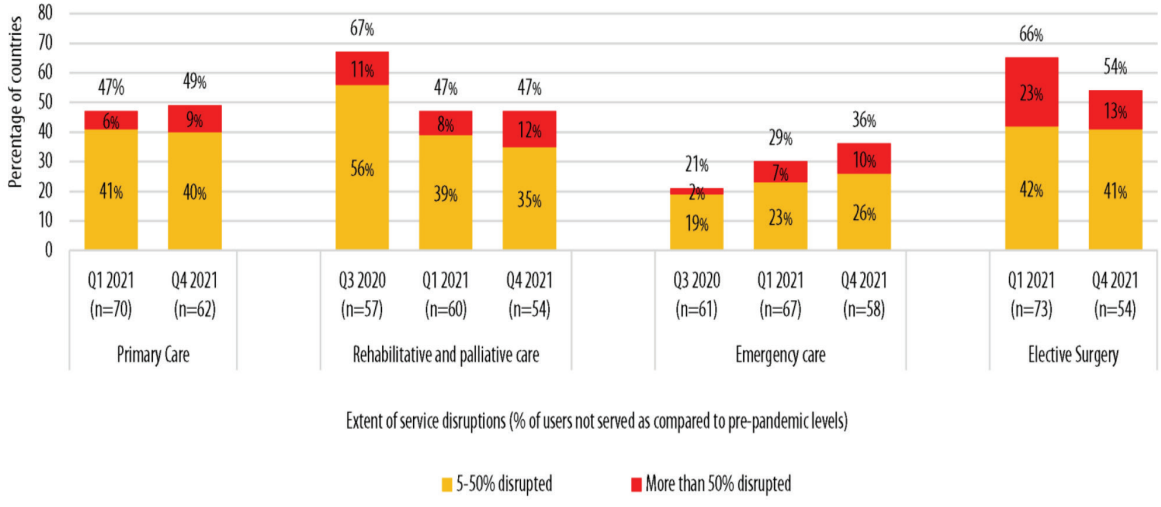
Source: *Situation of COVID-19 in Thailand, Interactive COVID-19 Dashboard, Department of Disease Control, MOPH. Data on 12 January 2020 – 30 September 2022, Analyzed on 12 January 2023 (https://ddc.moph.go.th/covid19-daily-dashboard/?dashboard=select-trend-line)*

9.2 Impact of COVID-19 on essential health services

Due to the COVID-19 pandemic, the WHO had conducted a survey on the impact COVID_19 had on essential health systems (The Global Pulse Survey on Continuity of Essential Health Services during the COVID-19 pandemic). Three surveys were conducted of which the first was in the 3rd trimester of 2020, the second survey was in the 1st trimester of 2021 while the third survey was conducted in the 4th trimester of 2021. The survey revealed that even though COVID-19 had been a pandemic for over 2 years, many nations' health systems have not returned their former status as before the pandemic since many systems are still facing health service management issues for their patients. There are also issues with he medical personnel such as medical personnel infected with COVID-19, deaths, fatigue, psychological issues including resignations. The service most impacted by the COVID-19 are elective surgery followed by primary care, rehabilitation and hospice care for terminally ill patients while the service with the least impact was emergency services (Figure 2-43)

Figure 2-43

Comparison of disruptions by service delivery setting in 95 countries responding to all three survey rounds: Q3 2020 Round1, Q1 2021 Round2 and Q4 2021 Round3



Note: *Analysis of disruption over time was limited to 95 countries that responded to all three survey rounds, through the specific questions answered in each round may have differed. Therefore, the denominators may not be consistent across serviced and across the three rounds.*

Source: *WHO, Third round of the global pulse survey on continuity of essential health services during the COVID-19 pandemic. Interim report, 7 February 2022, Page 15.*
Available on https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS_continuity-survey-2022.1

Consistent with the WHO survey, a study on the impact of COVID-19 on Thailand's health care systems conducted by Health Intervention and Technology Assessment Program (HITAP), International Health Policy Program, has revealed that during the first lockdown implementation, there was a decrease of 28 percent in outpatients' services usage, 25 percent decrease in inpatients' services usage and decreased 34 percent during the 3rd wave when compared to a simulation of no-COVID-19. Although were positive impacts on the respiratory system's disease group and infectious diseases as a result of social-distancing and mandatory wearing of masks, the disease groups that were least affected and had no difference in utilization of health systems were pregnancy, delivery and postnatal care, perinatal condition and neoplasia (Figure 2-29).

As for services that require close-contact such as cataract surgeries, these had seen a significant decrease by 47.5 percent, particularly, in the 3rd wave while appendectomy decreased by 18.5 percent when compared to the simulation of no-COVID-19 (Table 2-30). However, it was found that there were no differences in the number of patients visiting for appendicitis with generalized peritonitis due to increased rupture or perforation, which reflects the health systems' capabilities to diagnose and offer immediate treatments. This was also consistent with patients visiting health systems for ST-Element Myocardial Infarction (STEMI), which was lower from 2020-2022 but there was a minor increase in cardiac catheterizations. Hence, this is a reflection on the hospitals' capabilities to treat urgent cases even with he COVID pandemic (Data of STEMI in 15 years and above, UC beneficiaries in the 2010-2022 in Section 2.6.1.3).

Table 2-29

The changes in patient service utilization, excluding services for COVID-19, compared to the trend of patient service utilization in cases where there is no COVID-19 outbreak, categorized by disease groups.

ICD 10	Disease group	The changes in patient service utilization, excluding services for COVID-19, compared to the trend of patient service utilization in cases where there is no COVID-19 outbreak (%)			
		Outbreak round 1	Loosen lockdown	Outbreak round 2	Outbreak round 3
JOO-J99	Diseases of the respiratory system	-54.3*	-40.2*	-31.4*	-64.2*
A00-B99	Certain infectious and parasitic diseases	-36.3*	-22.5*	-35.6*	-57.1*
H00-H59	Diseases of the eye and adnexa	-43.7*	8.1*	2.4	-46.5*
H60-H95	Diseases of the ear and mastoid process	-27.8*	-1.2	1.6	-46.1*
R00-R99	Symptoms, signs and abnormal clinical and laboratory findings, elsewhere classified	-26.8*	-9.0*	-11.7*	-36.0*
L00-L99	Diseases of the skin and subcutaneous tissue	-27*	-0.4*	-7.6	-34.5*
M00-M99	Diseases of the musculocutaneous system and connective tissue	-28.9*	1.2	-2.7	-33.2*
K00-K93	Diseases of the digestive system	-23.2*	-3.8	-4.1	-28.2*
N00-N99	Diseases of the genitourinary system	-17.3*	0.4	0.4	-28.0*
Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	-20.1*	3.3	-3.1	-27.7*
D50-D89	Diseases of blood and blood-forming organs and certain disorders involving the immune	-15.5*	-6.5*	-6.3	-24.9*
G00-G99	Diseases of the nervous system	-18.3*	-1.3	1.2	-24.8*
E00-E90	Endocrine, nutritional and metabolic	-17.5*	1.1	1.6	-23.5*
I00-I99	Diseases of the circulatory system	-15.4*	2.9	5.6	-21.1*
S00-T98	Injury, poisoning and certain other consequences of external causes	-17.3*	1.9	1.2	-20.4*
F00-F99	Mental and behavioral disorders	-15.7*	12.6*	16.4*	-15.8*
C00-D48	Malignant neoplasms	-7.6	2.2	4.7	-14.9*
P00-P96	Certain conditions originating in the perinatal period	2.2	3.5	-5	-12.6*
O00-O99	Pregnancy, childbirth and the puerperium	-5.3	-0.1	-1.5	-7.4*

** Not ststistically significant at a confidence lavel of 95%*

Source: The impact of COVID-19 outbreaks on healthcare services for Universal Health Coverage, Health Intervention and Technology Assessment program, International Health Policy Program.

Table 2-30 **The changes in patient service utilization, excluding services for COVID-19, compared to the trend of patient service utilization in cases where there is no COVID-19 outbreak, categorized by service delivery patterns.**

Management	Disease	The changes in patient service utilization, excluding services for COVID-19, compared to the trend of patient service utilization in cases where there is no COVID-19 outbreak (%, 95%, CI)			
		1st Outbreak	Lockdown Termination	2nd Outbreak	3rd outbreak
Services Terminated	Dental Caries	-58.4* (-69.6, -43.1)	-13.6 (-28.8, 4.8)	-27.8* (-42.9, -8.8)	-64.8* (-72.2, -55.5)
	Cataracts	-45.6* (-59.9, -26.2)	12.5 (-7.1, 36.3)	5.8 (-15.2, 31.9)	-47.5 (-58.2, -33.9)
Services Decreased (Diseases that can wait for treatment)	COPD	-35.0*1 (-43.6, -25.1)	-23.5* (-31.2, 14.9)	-23.7* (-31.9, -14.5)	-48.4* (-53.9, -33.9)
	Hypertension	-19.8* (-29.7, -8.6)	10.1* (0.49, 20.5)	4.9 (-5.5, 16.3)	-30.9* (-37.5, -23.5)
	DM	-17.7* (-23.6, -11.3)	0.6 (-5.2, 6.7)	1.6 (-4.8, 8.4)	-25.7* (-30.1, -21.0)
Services Continued (Risk of Death)	Colon Cancer	-5.7 (-13.5, 2.8)	-1.2 (-7.9, 6.0)	0.4 (-7.1, 8.5)	-21.4* (-26.9, -15.5)
	Cerebrovascular Diseases	-13.9* (-19.2, -8.2)	-0.2 (-5.1, 4.8)	2.1 (-3.3, 7.8)	-19.6* (-23.6, -15.4)
	Appendicitis	-13.0* (-18.2, -7.5)	-2.6 (-7.3, 2.3)	-1.0 (-6.5, 4.7)	-18.5* (-22.4, 14.3)

**Statistical significance at the confidence level 95%*

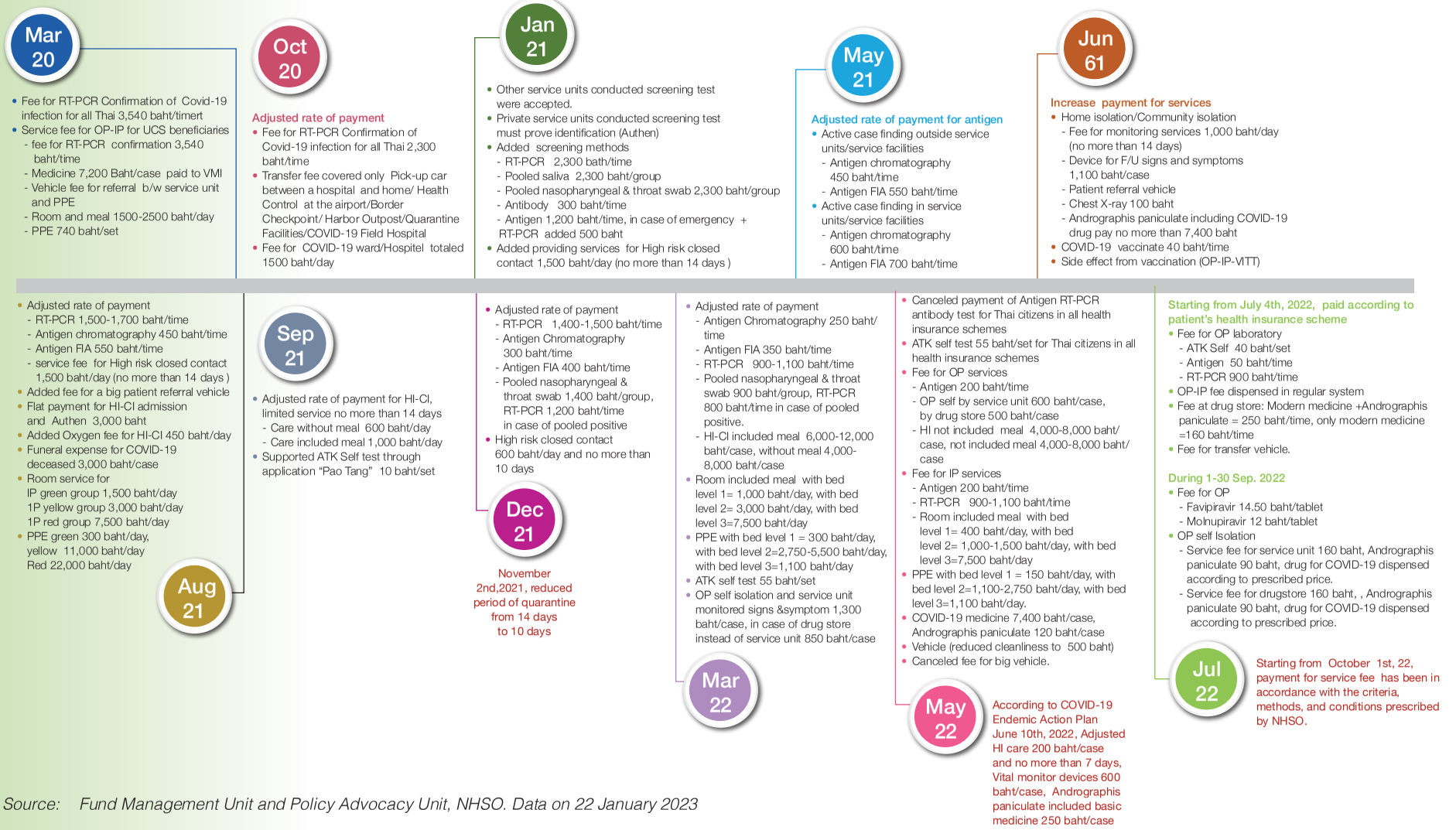
Source: The impact of COVID-19 outbreak on healthcare services for Universal Health Coverage, Health Intervention and Technology Assessment program, International Health Policy Program.

In an effort to decrease the effects on patients, all health systems had implemented the Business Continuity Plan (BCP) to increase flexibility and adapt to the changes in situations including restring services for the health systems to remain safe for providers and recipients, uncongested and can accommodate patients equally and equitably.

9.3 Benefit packages for COVID-19 Health Services

For the 2022 fiscal year, the National Health Security Office committee continues to provide healthcare for COVID-19 even though there were few modifications to the operations and improvements made to the payment system to downgraded status of COVID-19 as an endemic disease and as per the medical payment standards as set by the Ministry of Public Health (Figure 2-44)

Figure 2-44 **Timeline of Benefit Packages for COVID-19 Health Services to the UC scheme in the Fiscal Year 2020-2022**

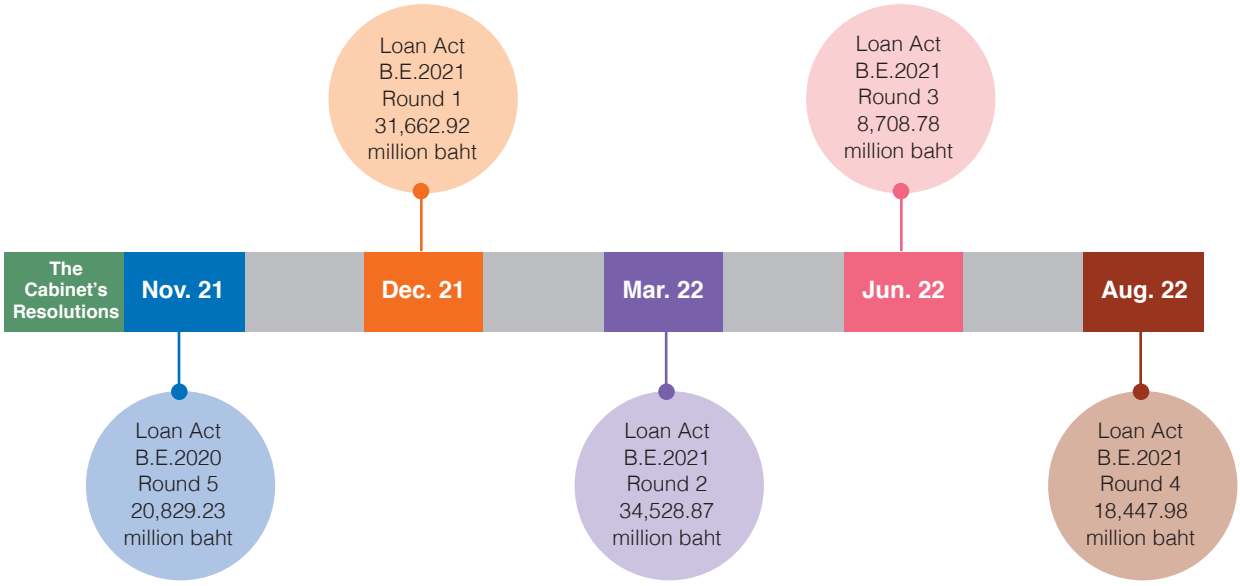


Source: *Fund Management Unit and Policy Advocacy Unit, NHSO. Data on 22 January 2023*

9.4 Budget for COVID-19 Health Service in the Fiscal Year 2022

In the 2022 FY, the NHSO had allocated public health funds for COVID-19 treatment from the Governmental Loans Act to alleviate, solve and restore the economy and society affected from the COVID-19 pandemic. The funds were also disbursed for screenings, prevention efforts, treatments, referrals, diagnosis, and treatment of side effects from vaccines, preliminary financial aid for post-vaccination, vaccination efforts in the FY 2021 Round 5 loan and FY 2022 Rounds 1-4 loans totaling to 114,177.778 million baht (Figure 2-45).

Figure 2-45 **The UCs Budget Amount for COVID-19 Health Services in the Fiscal Year 2022**



Source: *Fund Management Unit and Policy Advocacy Unit, NHSO. Data on 22 January 2023*

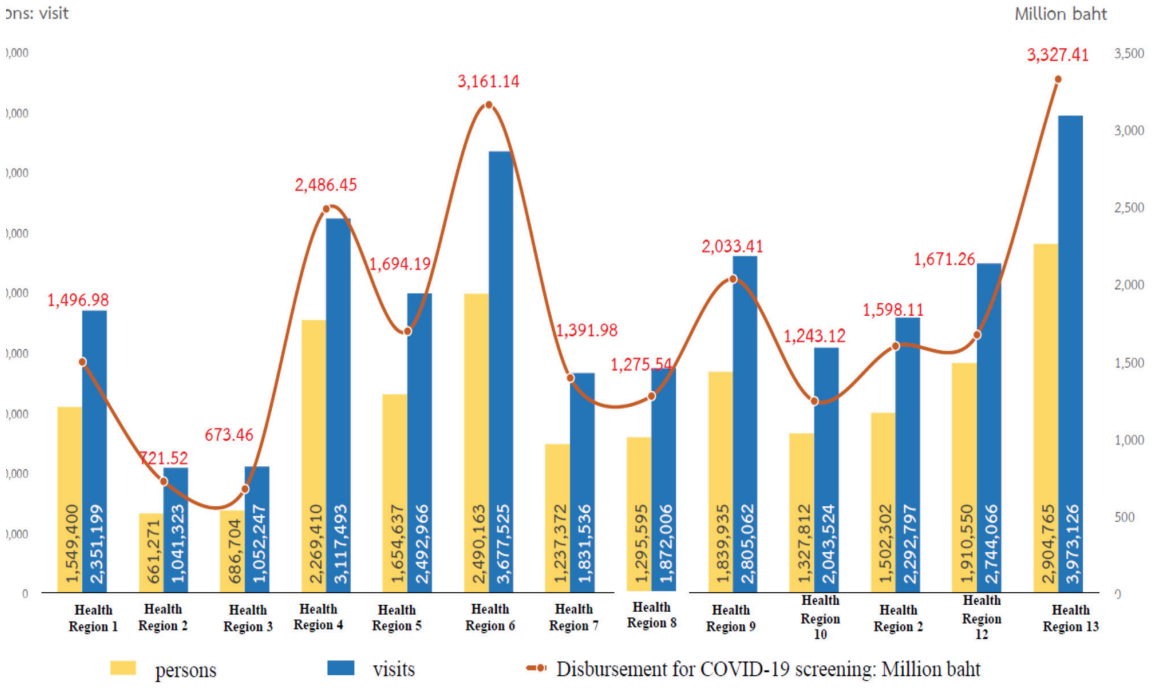
Note: *The resolution of the National Health Security Board No. 7/2022 considered the date of the meeting, July 4th, 2022, as the last day of providing services to patients with Coronavirus 2019 and allowing service units to submit performances for reimbursement within August 31, 2022, by assigning the NHSO to complete the reimbursement by December 31, 2022. However, due to the immense load of services to be investigated, the NHSO committee had approved for the NHSO to submit a proposal to the cabinet for extension of compensation period till 31st March, 2023.*

9.5 Outputs Performance

1) COVID-19 screening

The National Health Security Office had designated benefits and subsidized COVID-19 screenings costs for all at-risk individuals from all public health insurance schemes. In2022 FY, a total of 12.56 million citizens from all public healthcare schemes had been screened 31.29 million times amounting to a cost of 22,774.56 million baht. A total of 4.114 governmental units had participated in the screening efforts of which the NHSO Health region with the highest number of screenings was NHSO Health Region 13 Bangkok where 2.90 million at-risk citizens were screened at 3.97 million times utilizing 3,327.41 million baht (Figure 2-46).

Figure 2-46 **COVID-19 screening services provided classified by Health Region in the Fiscal Year 2022**



Source: *Fund Management Unit, NHSO. Data on 1 October 2021-30 September 2022, Analyzed on 2 March 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes: *1) One Infected individual may have been screened more than once, or screened at more than 1 service unit*
2) Excluding patients receiving services at Directorate of Medical Services, Royal Thai Airforce and Naval Medical Department

2) Home Isolation and Community Isolation Services, HI-CI

In the FY 2022, the government had implemented a COVID-19 treatment policy of Home Isolation (HI) and Community Isolation (CI), where the NHSO had sponsored financial reimbursements till 1st March, 2022, after which the government had implemented the "OP Self Isolation" treatment system for COVID-19. The HI/CI performances from 1st October, 2021 – 28th February, 2022, were 3.00 million visits made by 2.94 million citizens utilizing 25451.09 million baht with 3,462 service units participating in the scheme. The NHSO Health Region with the highest number of HI/CI was NHSO Health Region 11 Surat Thani where 383,116 at-risk citizens

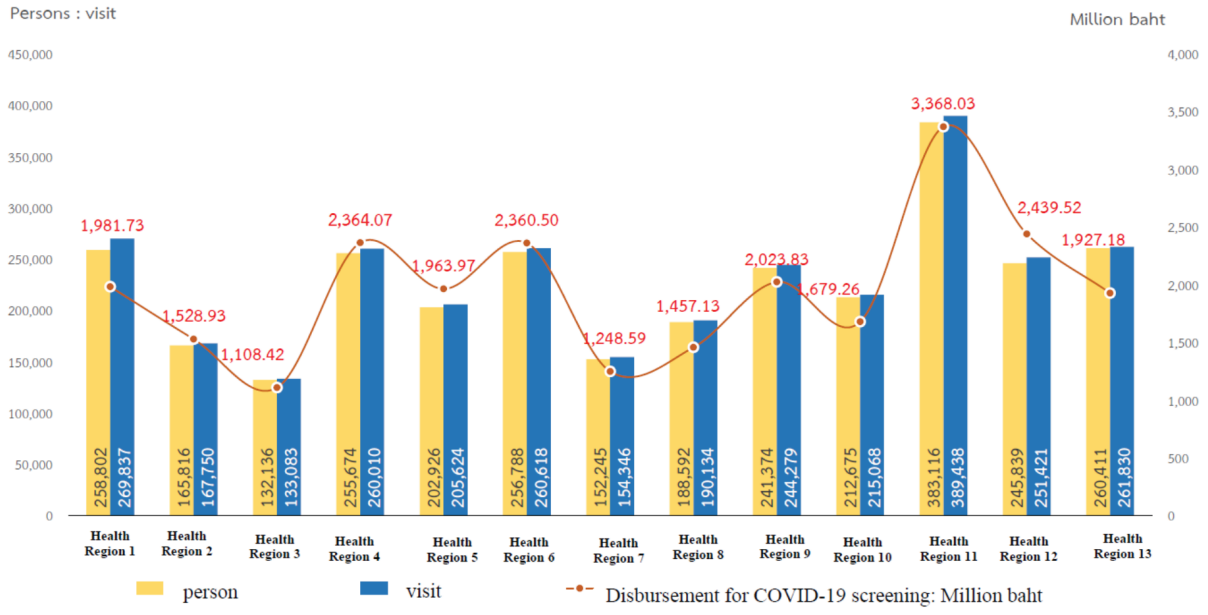
3) Outpatient Self Isolation (OPSI)

3.1) Outpatient Self Isolation: OPSI at Hospital

Since in FY 2022, even with a stronger infectious rate of COVID-19 but due to the lower severity of the disease including most citizens being vaccinated, the government had modified its treatment plan for at-risk patients to have better access in the form of OP Self Isolation without patients having to be admitted in the hospital. At-risk patients can instead get Antigen Test Kit (ATK) and if the test is positive, the patient will receive treatment. The policy implemented on 1st March, 2022 had 2.35 million citizens utilizing the service (OPSI) at 2.49 million times within the budget of 2,270.79 million baht with 5,0149 service unit participants. The NHSO Health Region with the highest number of usage was NHSO Health Region 1 Chiang Mai at 293,904 citizens at 309,182 times at a budget of 288.95 million baht (Figure 2-48).

Figure

2-47 **Home Isolation and Community Isolation services provided classified by Health Region in the Fiscal Year 2022**

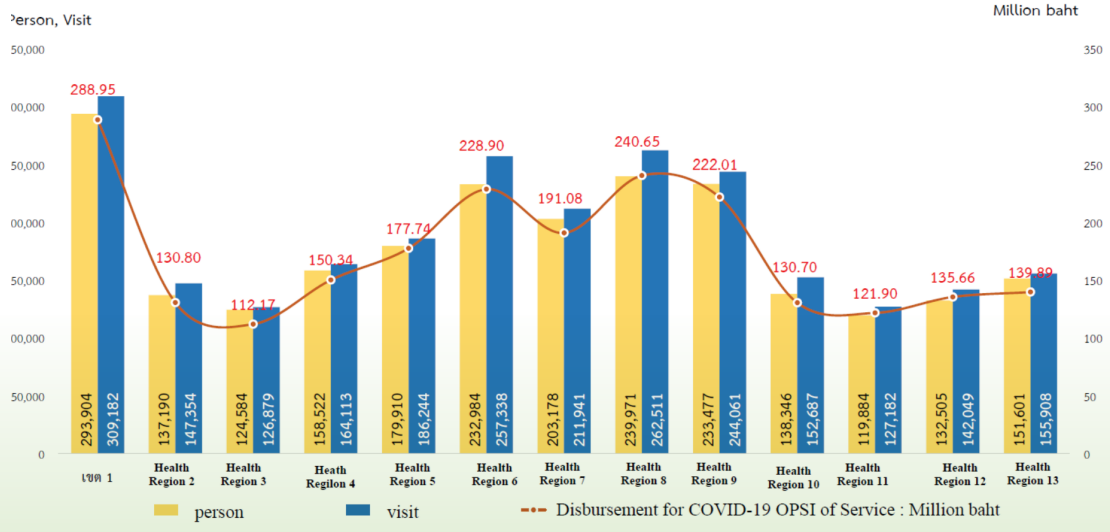


Source: *Fund Management Unit, NHSO. Data on 1 October 2021-30 September 2022,*
Analyzed on 2 March 2023 by Monitoring and Evaluation Cluster, NHSO.

Notes: *1) One Infected individual may have been screened more than once, or screened at more than 1 service unit*
2) Excluding patients receiving services at Directorate of Medical Services, Royal Thai Airforce and Naval Medical Department

Figure

2-48 **OP Self Isolation services at healthcare units provided classified by Health Region in the Fiscal Year 2022**



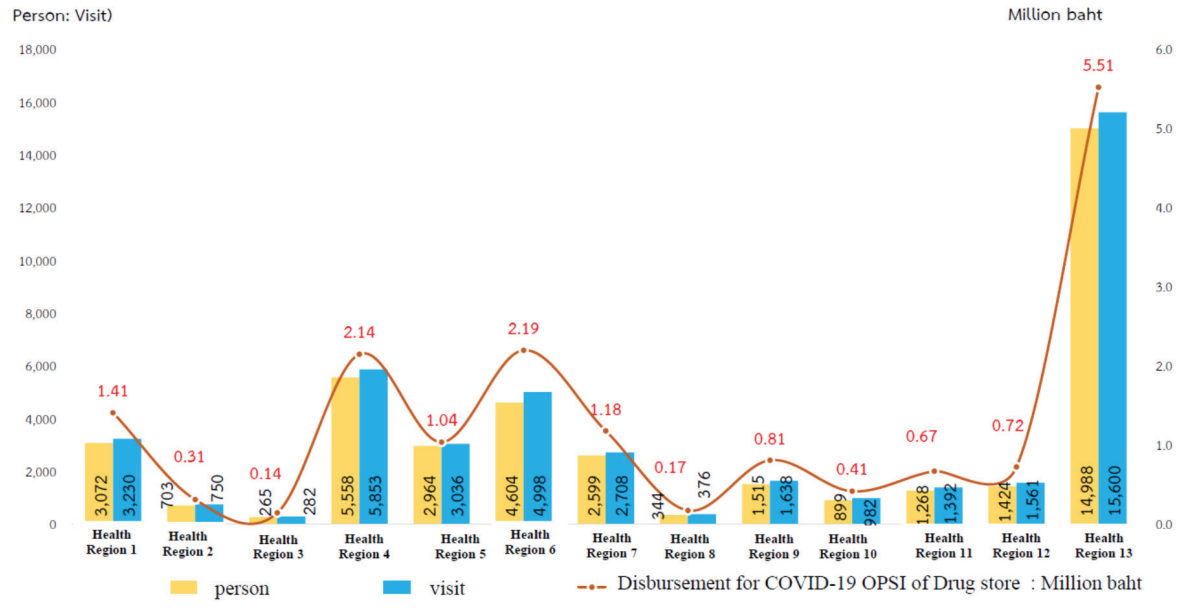
Source: *Fund Management Unit, NHSO. Data on 1 March-30 September 2022,*
Analyzed on 2 March 2023 by Monitoring and Evaluation Cluster, NHSO.

Notes: *1) One Infected individual may have been screened more than once, or screened at more than 1 service unit*
2) Excluding patients receiving services at Directorate of Medical Services, Royal Thai Airforce and Naval Medical Department

3.2) Outpatient Self Isolation: OPSI at Pharmacy

In addition to the OPSI, the NHSO had coordinated with The Pharmacy Council of Thailand to provide another treatment channel for COVID-19 patients in the Green group, or citizens without symptoms or those with mild symptoms, can receive medications at pharmacies. This will decrease congestion in hospitals, increase efficiency and prevent spread of COVID-19. In the 2022 FY, there were 40,201 patients who had utilized OPSI at 42,406 times at a budget of 16.70 million baht while 506 UC-registered pharmacies had participated in the OPSI while the NHSO Health Region with the largest number of visits was NHSO Health Region 13 Bangkok at 14,988 citizens at 42,406 times within a budget of 16.70 million baht (Figure 2-49).

Figure 2-49 **OP Self Isolation services at Pharmacy provided classified by Health Region in the Fiscal Year 2022**



Source: *Fund Management Unit, NHSO. Data on 21 March-30 September 2022, Analyzed on 2 March 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes: *1) One Infected individual may have been screened more than once, or screened at more than 1 service unit*
2) Excluding patients receiving services at Directorate of Medical Services, Royal Thai Airforce and Naval Medical Department

3.3) Outpatient Self Isolation: OPSI Telemedicine

The 2022 FY, apart from the OPSI, the government had added telemedicine for COVID-19 patients of which 5 private agencies had participated and 3,996 citizens had elicited services at 4,009 times totaling to 908,900 baht and performances were classified as per the Table 2-31.

Table 2-31 **Telemedicine services performance by service unit in the Fiscal year 2022**

Province	Healthcare units	Outputs			
		affiliation	persons	visits	baht
Bangkok	GDT Clinic	Private	1,864	1,872	399,420
Bangkok	Chiwii Clinic	Private	1,118	1,121	273,480
Bangkok	Clinick Clinic	Private	723	725	151,830
Bangkok	The Totale Clinic	Private	232	232	69,600
Songkhla	Pavarit Clinic: Family Medicine Doctor	Private	59	59	14,570
Total			**3,996**	**4,009**	**908,900**

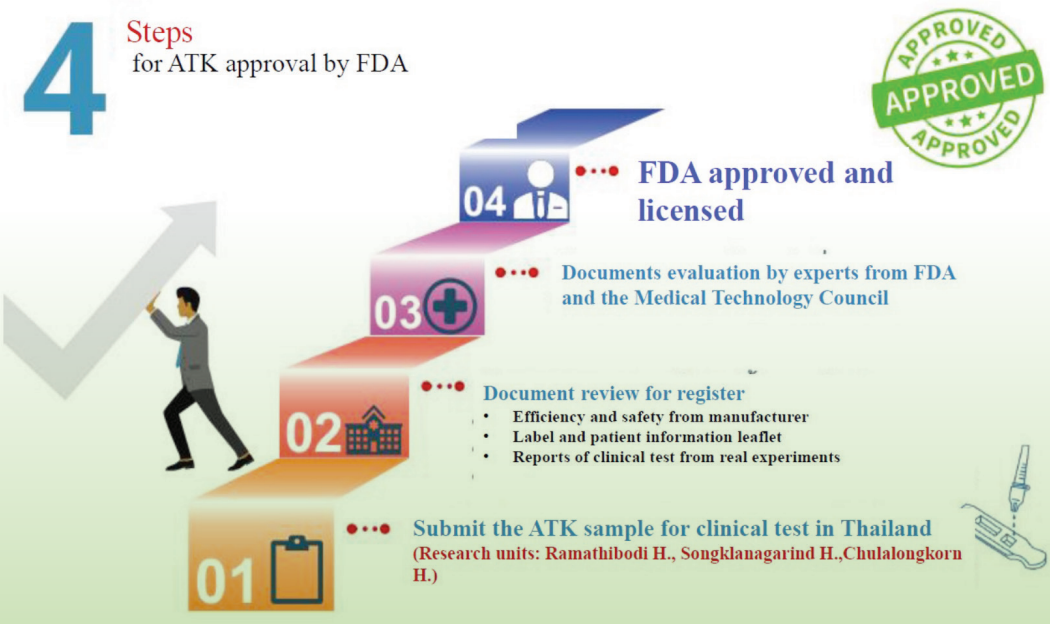
Source: *Fund Management Unit, NHSO. Data on 1 July-30 September 2022, Analyzed on 2 March 2023 by Monitoring and Evaluation Cluster, NHSO.*

Notes: *1) One Infected individual may have been screened more than once, or screened at more than 1 service unit*
2) Excluding patients receiving services at Directorate of Medical Services, Royal Thai Airforce and Naval Medical Department

Budgetary information, Outputs and Expenditures, COVID-19 screenings and treatment of COVID-19 as seen in Appendix 5-20

4) Procurement and support for Antigen Test Kit (ATK) for self-testing of COVID-19

The NHSO committee had approved of the procurement of ATK for citizens to have access as per the indications of Department of Disease Control of which 8.5 million kits have been ordered at an expenditure of 1,014 million baht. The procurement was accomplished for citizens to have immediate control, knowledge of their disease status, efficient treatment and reduction of COVID-19 spread. The procurement process was in accordance with that of the Council of State and the Cabinet's approval on 7th August, 2018, to be operated through Rajavithi Hospital's network while the procurement to be handled by the Pharmacy Council of Thailand. To ensure that the ATK procured are of standard, the Thailand Food and Drug Administration (FDA) had divided into 4 steps as follows:



The criteria for analyzing the quality of ATKs consists of 1. Its potential such as the accuracy, 2. Quality and Safety such as stability and 3. Clinical test report in Thailand with a diagnostic sensitivity of 90 percent, a diagnostic specificity at 98 percent, and a non-specificity of not more than 10 percent.

As for the distribution of the ATK Self-Test kits, there had been committee specifically set up for the distribution to NHSO Health service units with Department of Health Bangkok responsible for Bangkok while other provincial health departments were responsible for their respective provinces. The distribution of ATK Self-Test Kit began on 15th September, 202, under the supervision of regional NHSO officers monitoring and evaluating ATK distributing centers to be as per the guidelines of the NHSO and MoPH. There were 921 hospitals, 558 pharmacies, 441 Ob-un/nursing clinics had participated while ATK Self-Test kits were also allocated o schools facing with COVID-19 spread in students as per the unanimous guidelines of the Department of Disease Control, NSHO, MoPH and the Ministry of Education.

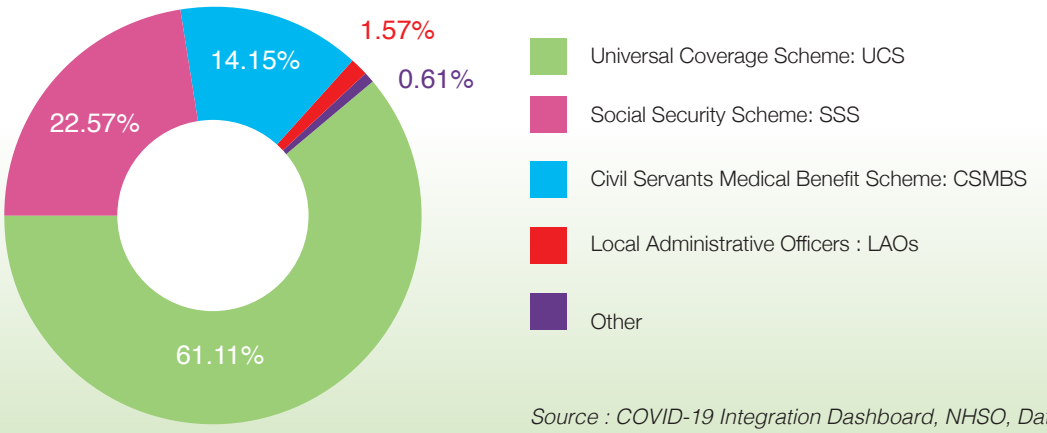
In addition, the 2022 FY, there were allocations of compensation for ATK distributing units; 8.87 million kits were distributed as per the guidelines of the MoPH in coordination with Krung Thai Bank, The Pharmacy Council of Thailand, Nursing Council of Thailand, the Medical Technology Council, and other service units. This was so to allow citizens to register and have access to kits free of charge; over 2,000 service units had participated such as pharmacies, clinics, rehabilitation clinic, medical technology clinics since 1st June, 2022.

5) Liability Compensation for Patients and Healthcare providers with injury from COVID-19

5.1) Preliminary Compensation Section 41 from National Health Security Act 2002 for patients with injury following COVID-19 vaccinations

Thailand started administrating the COVID-19 vaccinations for its citizens and to prepare for unforeseen effects, or side effects from vaccinations, the NHSO had earmarked preliminary financial assistance budget for the complications resulting from COVID-19 vaccination for all Thai citizens from all schemes. In 2022, there were a total of 16,124 complainants of which 13,870 (86.02 percent) had qualified for preliminary financial assistance. The majority of the complainants were UC beneficiaries, 9,853 individuals (61.11 percent), followed by SSS and CSMBS beneficiaries at 3,639 (22.57 percent) and 2,281 individuals (14.15 percent) (Figure 2-54).

Figure 2-50 **Number of Petition for COVID-19 Vaccination Injury Compensation classified by schemes in the Fiscal Year 2022**



Source : COVID-19 Integration Dashboard, NHSO, Data on 1 October 2021 - 30 September 2022, Analyzed on 12 January 2023.

When classified by level of damages, it has been learnt that 68.28 percent (9,470 individuals) was mild damages and most severe damages, or deaths or decrepit, at 31.72 percent (4,400 individuals) while the preliminary financial assistance for damages incurred from COVID-19 amounted to 2,013.182 million baht.

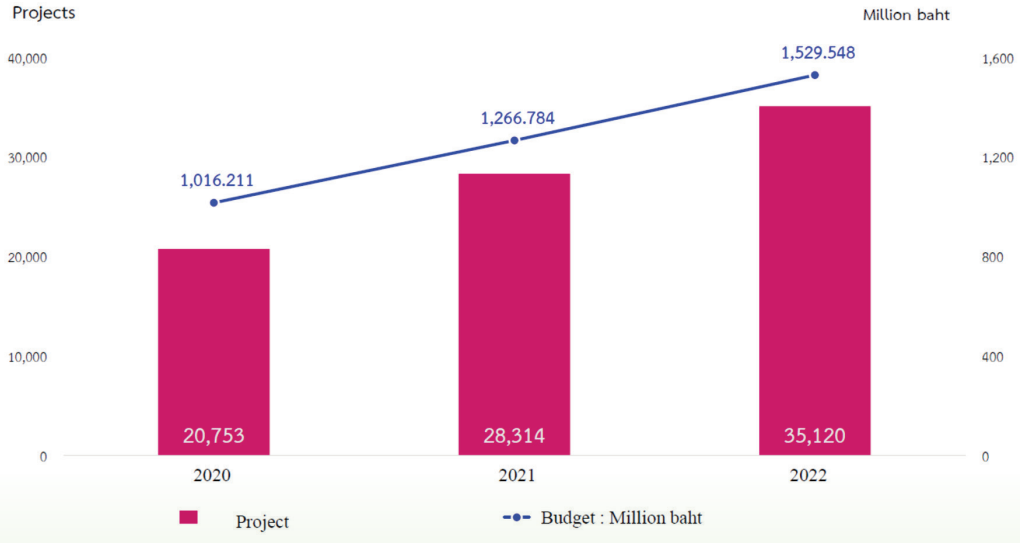
5.2) Preliminary compensation for Providers suffering from liabilities due to COVID-19 treatment service

Due to the OCVID-19 pandemic, it was not just the citizens that faced risks but also the providers, therefore, the NHSO had proceeded as per the regulations of the Ministry of Finance to provide preliminary compensation to providers ensuring damages from their public health service according to the declaration in the Royal Gazette on 28th March, 2018. 11,236 providers had filed complaints regarding ensuing damages from COVID-19 public health service of which 10,865, or 96.70 percent, qualified for preliminary financial assistance and the financial assistance incurred amounted to 117.865 million baht.

6) COVID-19 Prevention Program by Local Health Security Fund

The Local Administrative Organizations (LAOs) is another important governmental agency that had utilized the Local Health Security Fund to prevent further spread of COVID-19. In the 2022 fiscal year, 35,120 projects were executed from the Local Health Security Fund burning a total of 1,529.548 million baht with additional sponsorship from all districts from 2020-2022 at 3,800.743 million baht for a total of 83,932 projects (Figures 2-51 and 2-52).

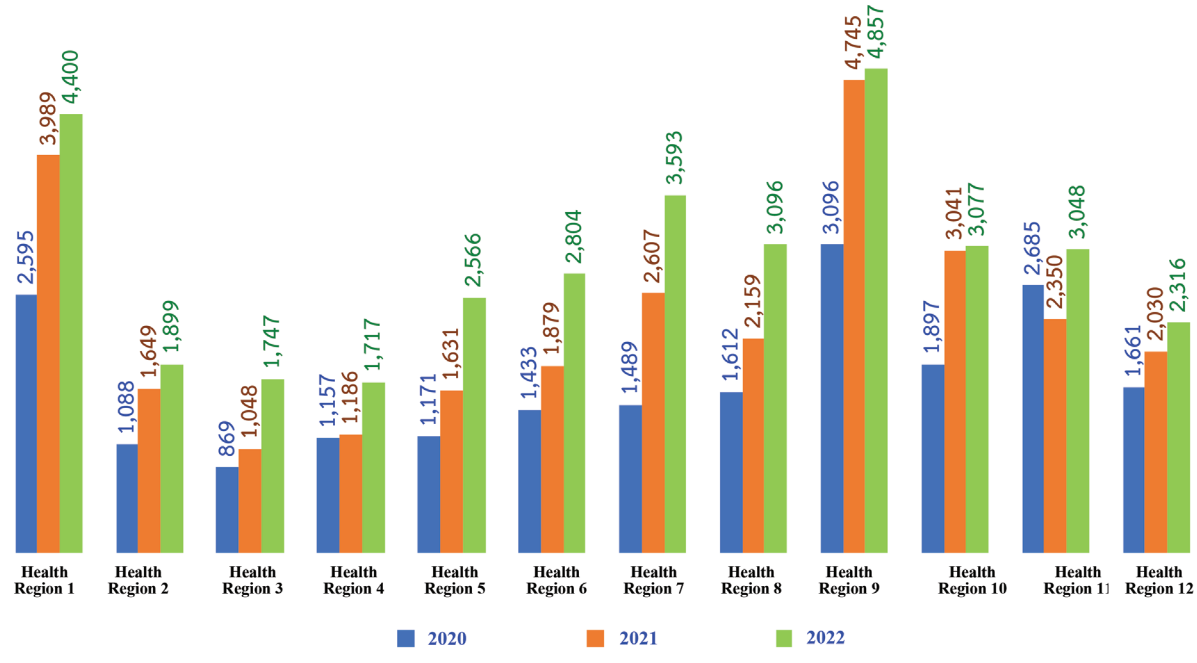
Figure 2-51 **Number of local health security fund projects and budget for preventing COVID-19 in the Fiscal Year 2020 – 2022**



Source: Community Care Commissioning Cluster, NHSO, Data on 30 September 2024, Analyzed on 2 December 2022

Figure 2-52

Number of local health security fund projects for preventing COVID-19 classified by Health Region in the Fiscal Year 2020 - 2022



Source: Community Care Commissioning Cluster, NHSO, Data on 30 September 2024, Analyzed on 2 December 2022

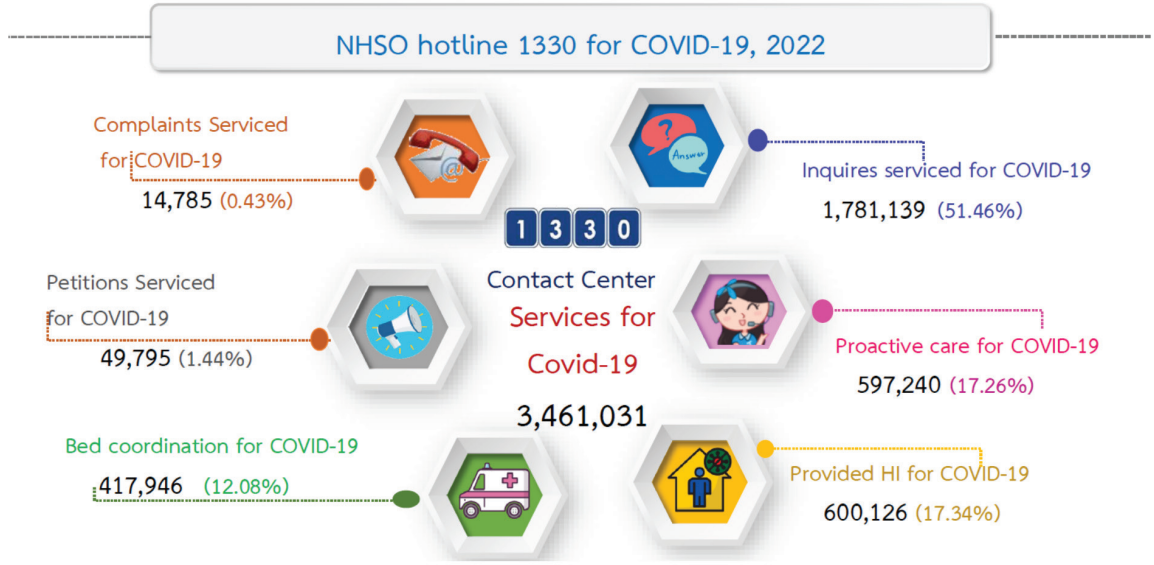
7) NHSO Call Center 1330 and Stakeholders participation

From the COVID-19 pandemic, the NHSO Call Center had continuously offered its services providing information, creating awareness, lodging complaints for citizens, catering messages to patients, monitoring patients' COVID-19 symptoms to ensure that citizens receive continuous care. Hence, the services provided by the NHSO 1330 Contact Center consists of (Figure 2-53):

- *Increase contact channels:* for patients to receive COVID-19 treatment
  - COVID-19 patients, Green Group, or OPSI as per the guidelines of the MoPH: citizens testing positive for COVID-19 would call the NHSO 1330 Contact Center ext. 14 and had received screening and for those with mild symptoms, or no symptoms, will be guided on care and receive OPSI at the hospital or nearby pharmacies.
  - Special channel 1330 ext. 18 for high-risk groups such as 608 group (elderly over 60 years old with underlying diseases form the 7 Underlying Diseases Group), 0-5 years children, the disabled and bed-ridden patients.
- *Distribution of COID-19 medication:* The NHSO with the MoPH had added support for units that have yet to log into the service system to provide care for COVID-19 patients in the 608 group and not in the 608 group. The service began since the 23rd July, 2022, where COVID-19 medication was sent to the patient within 24 hours by the Thailand Post Distribution Co., Ltd, for whom the service was sponsored by Bank for Agriculture and Agricultural Cooperatives. A total of 6,614 citizens had received medication in this manner.
- *Proactive Monitoring:* in order to stay abreast of patients' conditions and to support COVID-19 treatment units

- Coordinated to search for beds for Patients in the Yellow Zone, or those with mild symptoms but with fatigue, hyperventilation, or those at risk for severe conditions or with underlying diseases, and for patients in the Red Zone, or patients with fatigues, breathlessness, severe pneumonitis from X-Ray for all patients to receive immediate care.
- Update COVID-19 patients waiting for beds
- Follow-up on ATK recipients and results
- COVID-19 treatment
- Follow-up on whether patients received care or not to properly calculate expenses reimbursements.

Figure 2-53 **NHSO 1330 Contact Center services for COVID-19**



Source: People Engagement and Entitlements Protection Cluster, NHSO, data on 1 October 2021 - 30 September 2022

Due to the COVID-19 pandemic, there was an average of 7,000-8,000 calls per day to the NHSO 1330 Contact Center; hence, for continuous service, the NHSO had increase officers' force with:

- Increase in number of Call Center officers to 600 -700 per day to accommodate 1,600 calls per day
- Increased contact through online channels such as LINE, Facebook, Line Chat, Email, Traffy, Fondue, Pantip and Web board
- Expanded cooperation to public and private agencies to answer citizens' calls
- In working with other networks during the COVID-19 pandemic from 2020-2022, the NHSO has gained invaluable experiences and formed new relationships with networks and diverse organizations, all of whom had a definite goal of alleviating COVID-19 difficulties for citizens. The volunteers from private and public agencies that had participated in the hotline came from the military, the Red Cross, MoPH (FDA, Department of Disease Control, Department of Mental Health, Department of Health, Health Promotion Department), Electrical Generating Authority of Thailand, Thai Bankers Association, Thammasat University Volunteers, and nursing and social service networks.

9.6 Lessons learned from the COVID-19 pandemic.

From the COVID-19 pandemic, Thailand hs faced with various challenges such as public health, economy, society and others due to the virulence and rapid transmission of the disease including the novelty of the disease preventing us from being able to predict its virulence process. Therefore, all private and public organizations have cooperated to alleviate COVID-19 sufferings for citizens. The NHSO as the operator of NHSF had seen an opportunity in the obstacle to directly care for all citizens to not have to shoulder the financial burden of COVID-19 treatment. Hence, during the COVID-19 pandemic, the NHSO had decreed many healthcare policies for UC beneficiaries for beneficiaries to be fully covered for COVID-19 treatment starting with COVID-19 screenings, COVID-19 vaccination and preliminary financial assistance as per the Section 41 of National Health Security Health Act including beneficiaries incurring damages from COVID-19 vaccinations to receive immediate and effective care. Apart from such measures, the NHSO was assigned by the government to operate the NHSO 1330 Contact Center as the National Call Center for all citizens to express their intention to receive HI treatment including cooperating with other networks to alleviate COVID-19 challenges through these measures:

9.6.1 Medical Care

Medical Care Budget, the NHSO had allocated public health funds for COVID-19 management and related services from the Government Loans Act to solve problems, relive and restore the economy and society impacted from the COVID-19 pandemic as COVID-19 treatment in the years 2020 (Rounds 1-5) and 2021 (Rounds 1-4) totaling to 114,177.778 million baht. The funds were used to cover at-risk and infected citizens for these incurred costs: expenses incurred from screenings for all citizens from all schemes, UC COVID-19 patients treatment, COVID-19 vaccinations for all schemes including other services such as preliminary financial assistance for those suffering from damages at service units, preliminary financial assistance for those suffering from damages after vaccinations.

Benefit Packages for COVID-19, as a response mechanism to the COVID-19 pandemic, the National Health Security Office's committee had defined benefits under the Green Channel review process executed under the requirement of a health emergency such as a pandemic with efficacy results, guidelines, a ready system, not a liability to the budget, not violating any ethical standards with clear evidence for consideration for citizens to receive immediate care.

Service for at-risk groups and treatment of the infected, the NHSO had compensated the public health services rendered to at-risk patients and infected patients to services units for all services served as per the guidelines by the MoPH. During the initial phase of COVID-19 pandemic, the government had focused efforts on quarantining at-risk patients and treated all those infected. The NHSO had compensated service units for RT-PCR, cared and served those with high-risk (14 days quarantine), including hospitals for treatment of COVID-19 patients plus procurement of devices needed for treatment.

However, in the later stages, there was a change in the virulence of the virus as the spread was faster and increased in severity compounded by the fact that the hospitals had reached its carrying capacity, the governmental had implemented the HI/CI, or Hospitel, measures for patients to receive preliminary treatments before inpatient treatment for severe patients to receive treatment and those with mild to medium symptoms would still be under medical care. During the pandemic, there were advancements made to the treatment starting with the government completely sponsoring COVID-19 vaccinations and preliminary financial assistance as per the National Health Security Fund Section 41 of the National Health Security Act 2002 in case of incurring damages from COVID-19 vaccinations and preliminary financial assistance for providers incurring damages from providing COVID-19 treatment. The government had also supported COVID-19 self-check through ATK by sponsoring the ATK in the initial phase and had compensated units later when the situation had decreased in severity but with an increase in demand

for vaccines. Hence, the government had modified its policies for citizens to receive immediate treatment through the policy: OPSI without patients having to elicit inpatients services rather self-test with ATK. If the results are positive, the doctor will consider providing treatment as the presenting symptoms effective on 1st March, 2022. In addition, these services were also added: drugs pick-up at pharmacies, drugs postal delivery, telemedicine to decrease congestion in hospitals and decrease spread until 1st October, 2022 when the MoPH had declared COVID-19 as an endemic, where citizens can still receive medical care as per the individual's insurance scheme.

9.6.2 NHSO 1330 Contact Center and coordination with other networks

"NHSO 1330 Contact Center" had assisted Thai citizens from all insurance schemes to alleviate COVID-19 challenges as assigned by the government as the National Call Center to receive complaints lodge from citizens in order to proactively response complaints by coordinating with service units to request for treatment for patients in the Yellow/Red zones, or in Hospitels, requests for HI, coordinated for treatment at domiciles, received updates on patients Group 608, booking for vaccination in Bangkok, respond to inquiries made regarding ATK, respond to inquiries regarding COVID-19 treatment in hospitals. There were calls as high as 70,00 call per day leading to many calls left unanswered resulting in the NHSO increasing the force of NHSO 1330 Contact Center to decreases calls left unanswered by accumulating NHSO officers from regional and provincial offices to help answer including assistance from the private sectors and citizens themselves. The NHSO had also hired private companies to answer calls during the peak of COVID-19. Due to the complications that had arisen during the worst of COVID-19, the NHSO had to coordinate with many organizations whether they were private or public or civil society for citizens to be updated, receive immediate and efficient help. The office had ensured citizens' awareness by proactively screening citizens for COVID-19, distributing drugs, equipment required for COVID-19 care and promoted citizens to receive care at home or in communities. This event had allowed the NHSO to interact and work with new organizations whether it is the Red Cross, Institute of HIV Research and Innovation (IHRI), Zendai Group, the banking groups, Khun Panna Wongphudee and her team of Goodness Organizations, or influencers such as dramaaddict, mhor lab panda. There were also the Royal Thai Army, Office of the Private Education Commission (OPEC), MoPH, nursing students of Boromarajonani College of Nursing, or the private sector such as the banking group and other civil societies such as Unit 50 (5) and many more.

9.6.3. Prevention and Control of COVID-19 with Local Administrative Organization (LAOs)

The National Health Security Office had made announced the criteria for the Laos to operate and manage the Local Health Security Fund (3rd Amendment) 2020 for elimination of the pandemic. The LAOs' fund president had the authority to approve projects or preventative activities or public healthcare prevention activities as per the Communicable Disease Act to 100,000 baht per project. As a result of such authorizations, the LAOs had organized disease preventive and health promotion activities for citizens such as making sanitary masks, hand gel production classes, and created awareness for citizens on prevention techniques.

9.6.4. Integration dashboard and COVID-19 Information System

To keep up with the data of COVID-19, the public and private sector including the civil society had each developed their own information systems to digitalize and update the COVID-19 situation, the usage of public health resources, access to public healthcare by citizens. The NHSO was one of the agencies that had developed its own information system to monitor and track the access UC beneficiaries had for CVODI-19 treatment including other responsibilities assigned by the government to particularly focus on Bangkok, where the infections were the highest. The

information integrated on the those that tested positive, treatment from public sectors, civil society under the Personal Data Protection Act were developed into a Dashboard. The database was further shared with academics and other agencies to remain abreast of the disease progress, the operations of the NHSO and for research and development use.

Lessons and Opportunities that NHSO had gained from COVID-19

The Institute for Population and Social Research, Mahidol University (Knowledge Building and Learning Lessons including Dissemination of documents on NHSO's Health Systems 2022), during the COVID-19pandemic, it has been learnt that the NHSO had used its financial, information and management potential to execute to become the main party in providing advice and efficient management of the COVID-19 situation as assigned by the government. Simultaneously, the NHSO had taken 3 main actions to manage the COVID-19 situation:

1. The entire operating processes were adjusted to respond to the pandemic situation in a timely manner starting with speeding up payment to healthcare center to maintain efficiency and not billing Green Channel patients to develop rights during COVID-19, speeding up preliminary payments to beneficiaries suffering from COVID-19 vaccination side effects. This includes developing the NHSO 1330 Contact Center to coordinate for beds or to rapidly partner a patient with a service center to sufficiently service many populations.

2) NHSO had promoted services consistent with patients' needs and behaviors consistent with the demands of the disease under the guidance of the government and standards of the MoPH. The NHSO had also used this opportunity to develop telehealth/ telemedicine, deliveries of medicines and food to COVID-19 patients to decrease congestion and long waiting time to facilitate the New Normal lifestyle including integrating information with other networks to create Big Data; new technologies were implemented to bolster the potential of the fund and monitor performances for citizens to get access to information and services efficiently.

3) Partnering with both the public and private networks to provide comprehensive care to the infected; COVID-19 pandemic management had indicated that to work efficiently and proactively, the NHSO had to coordinate with many agencies. It was critical to do so since it was critical to clearly communicate guidelines and operations, which had to rapidly adapt to changing situations, to citizens and agencies to be aware of accessibility for treatment from service units. Therefore, the operations of NHSO during COVID-19 pandemic were clearer to both citizens and relevant networks.

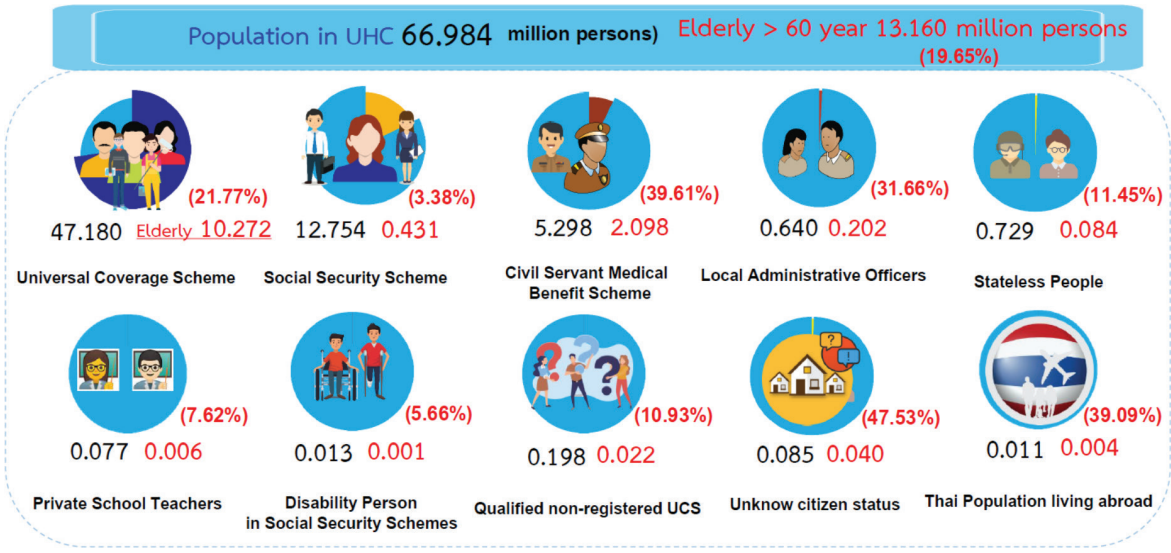
Another critical coordination that occurred during the COVID-19 pandemic was between the 3 public health funds that had jointly utilized the same benefit package and the same payment system for COVID-19. This is a clear indication that the universal coverage system of Thailand had performed to its three dimensions of healthcare security: 1. Coverage for all citizens, 2. Covering healthcare demands for citizens and 3. Financial coverage for all Thai citizens to receive public healthcare in relation to COVID-19.

10. Elderly services under the UC scheme

10.1 Health Security schemes in the Elderly

Thailand is entering a Complete-aged society, or a society which 20 percent is made up of 60 years or older adults. In the 2022 FY, the Universal Coverage had a total of 66.984 million individuals of which 13.160 million individuals were 60 years or above, or 19.65 percent, consisting of 10.272 million (21.77 percent when compared to all UC age groups) UC elderly, 0.431 million (3.38 when compared to all age groups) SSS elderly, and 2.098 million (39.61 percent when compared to all age groups) of CSMBS adults. 99.50 percent of elderly are covered with the Universal Health Coverage (while all age groups for UHC is at 99.56) and 99.40 for the Universal Coverage Scheme (equal for all age groups) (Figure 2-54).

Figure 2-54 **Number of Elderly aged 60 years and older classified by Health security schemes in the Fiscal Year 2022**



Source: Department of Registration, Fund Management Unit, NHSO, Data on 30 September 2022

10.2 Elderly's Access to Healthcare

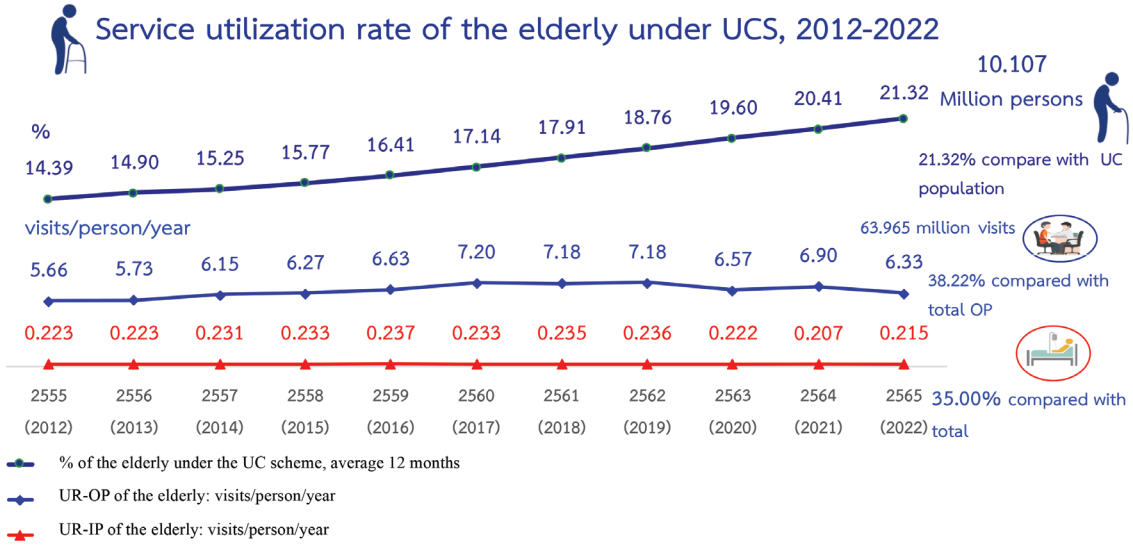
10.2.1 UCS Elderly's Access to IP and OP services

63.965 million outpatients visits, or 38.22 percent or 6.33 visits per elderly beneficiary per year, were made by the elderly when compared to the total amount of outpatients visits. This was an increase from 2021 FY, which was at 5.66 visits per elderly beneficiary per year, and there has been a decrease in outpatients visits by this group from 2020-2022 when compared to the years before.

2.171 million inpatients visits, or 35.00 percent or 0.215 visit per elderly beneficiary per year, were made by elderly patients when compared to all age groups; the number of visits remained consistent at 0.207-0.237 in the 2020-20222 years.

The 2022 FY had seen 1 out of 5 UC elderly outpatients, or 21.32 percent, while 1 out of 3 UC elderly inpatients, or 38.22 percent and 35 percent. The rate of outpatient services' utilization by **elderly of 60-69 years and 70 years and above** was 6.24 and 6.44 percentages per beneficiary per year or twice the amount of all UC beneficiaries; however, there was a significant decrease when compared to the prior year. In regards to **inpatients' services utilization by elderly at 60-69 years old and 70 years and above,** the percentage was at 0.18 and 0.26 per beneficiary per year, which was consistent with the former years (Figures 2-55 and 2-56).

Figure **2-55** **Number of Visits and Utilization rate for Outpatients and Inpatients of Elderly aged 60 years and older under the UC scheme in the Fiscal Year 2012-2022**



Source: *Data of Outpatient and Inpatient services, UC Scheme, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed by Policy Advocacy Unit, NHSO. By 1) Data for OP services, from OP 43 files and OP E-Claim, on 1 December 2022, and 2) Data for IP services from IP E-claim, on 10 March 2023*

Figure **2-56** **Number of Visits and Utilization rate for Outpatients and Inpatients of Elderly aged 60 years and older under the UC scheme in the Fiscal Year 2012-2022**

	Age groups	< 1 year	1-4 year	5-14 year	15-59 year	60-69 year	70 year and over	visits/person/year Total
Outpatients	2018	5.59	4.43	2.60	2.84	7.01	7.39	3.693
	2019	5.30	4.10	2.56	2.91	7.04	7.36	3.745
	2020	4.69	3.21	2.30	2.65	6.45	6.73	3.421
	2021	3.34	2.91	1.90	2.75	6.56	7.33	3.477
	2022	3.75	3.04	2.37	2.85	6.24	6.44	3.531
Inpatients	2018	1.23	0.19	0.06	0.09	0.19	0.29	0.130
	2019	1.21	0.17	0.07	0.09	0.19	0.29	0.132
	2020	1.18	0.14	0.05	0.09	0.18	0.27	0.123
	2021	1.09	0.12	0.05	0.10	0.17	0.25	0.124
	2022	0.94	0.14	0.07	0.10	0.18	0.26	0.131

Source: *Data of Outpatient and Inpatient services, UC Scheme, Monitoring and Evaluation Cluster, NHSO. Data on 30 September 2022, Analyzed by Policy Advocacy Unit, NHSO. By 1) Data for OP services, from OP 43 files and OP E-Claim, on 1 December 2022, and 2) Data for IP services from IP E-claim, on 10 March 2023*

10.2.2 Disease Group Ranking based on OP/IP visits made by UC Elderly

Disease Group Ranking based on OP/IP visits by the UC elderly as per the Principal Diagnosis (PDx) excluding health promotion and disease prevention (ICD-10, Code Z) and Thai traditional medicine (ICD10:U50-U77). In 2022 Fiscal year, it has been found that OP visits for the top 15 diseases at 18.565 million visits amounting to 29.03 percent of all 63.965 OP visits. The top 3 were 1. Essential (Primary) Hypertension (I10), 2. Non-Insulin-dependent Diabetes Mellitus, without complications (E119), and 3. Chronic Kidney Disease, Stage 5 (N185).

Additionally, there were a few diseases that received a high proportion of OP visits by elderly beneficiaries such as Hyperplasia of Prostate (N40), Chronic Obstructive Pulmonary Disease, Unspecified (J449), Atrial Fibrillation and Flutter (I48), Non-Insulin-Dependent Diabetes Mellitus, with renal complications (E112) (Table 2-32).

In addition, the diseases that elderly receive most inpatient care were Chronic Obstructive Pulmonary diseases with acute exacerbation, unspecified (J441), Senile Nuclear cataract (H251) and Senile Cataract, unspecified (H259) (Figure 2-33).

Disease ranking based on hospital admissions and deaths: in the 2022 FY, 34,486 elderly, or 37.20 percent, had died from the top 10 Disease groups as per the PDx from all 92,701 elderly inpatients. The top 5 diseases leading to hospitals and deaths are Other viral pneumonia (j128), Pneumonia, unspecified (j189), Urinary Tract Infection, site not specified (N390), Congestive Heart failure (I500) and Acute Subendocardial myocardial infarction (I214). The proportion of elderly dying over these 5 diseases when compared to other age groups were: 75.51, 72.57, 84.74, 74.26 and 84.34 percentages, respectively (Table 2-34).

The inpatient information as analyzed by the NHSO was calculated based on visits as per the PDx leading to the discovery of the disease with the top admissions rates and deaths as Other viral pneumonia (J128) most likely as a result of COVID-19 according to the Thai Health Coding Center (THCC) and MoPH which had jointly specified inpatient COVID-19 in the ICD10 system as J128: Other Viral Pneumonia in conjunction with U017: COVID-19, virus identified.

Table 2-32 **Top 15 Diseases of Outpatient visits in Elderly aged 60 years and older under the UCS Scheme in the Fiscal Year 2022**

ICD10: principal Dx	OP-visit in Elderly (visits)	60-69 years: visits	>=70 years: visits	OP-visit all (visits)	% of OP visits in Elderly
1. I10: Essential (primary) hypertension	8,414,036	4,098,161	4,315,875	12,482,754	67.41
2. E119: Non-insulin-dependent diabetes mellitus, without complications	4,726,818	2,753,360	1,973,458	7,818,536	60.46
3. N185: Chronic kidney disease, stage 5	910,841	550,261	360,580	1,735,802	52.47
4. K30: Dyspepsia	749,019	399,227	349,792	1,942,902	38.55
5. J00: Acute nasopharyngitis [common cold]	720,373	401,635	318,738	5,022,512	14.34
6. R42: Dizziness and giddiness	708,078	328,923	379,155	1,310,634	54.03
7. E112: Non-insulin-dependent diabetes mellitus, with renal complications	356,363	165,087	191,276	467,977	76.15

Table 2-32

Top 15 Diseases of Outpatient visits in Elderly aged 60 years and older under the UCS Scheme in the Fiscal Year 2022

ICD10: principal Dx	OP-visit in Elderly (visits)	60-69 years: visits	>=70 years: visits	OP-visit all (visits)	% of OP visits in Elderly
8. J449: Chronic obstructive pulmonary disease, unspecified	337,304	123,991	213,313	405,867	83.11
9. E785: Hyperlipidaemia, unspecified	272,158	173,007	99,151	487,692	55.81
10. I48: Atrial fibrillation and flutter	263,760	97,487	166,273	325,268	81.09
11. N40: Hyperplasia of prostate	252,838	90,318	162,520	284,398	88.90
12. U071: COVID-19, virus identified	228,086	130,556	97,530	1,255,339	18.17
13. E149: Diabetes mellitus, without complications	216,027	124,313	91,714	367,799	58.74
14. I64: Stroke, not specified as haemorrhage or infarction	208,713	96,681	112,032	326,434	63.94
15. M791: Myalgia	510,400	119,665	83,508	203,173	39.81
Top 15 Diseases	**18,567,587**	**9,652,672**	**8,914,915**	**34,744,314**	**53.44**
% Top 15 Diseases	**29.03**	**27.76**	**30.54**	**20.76**	**-**
Total	**63,965,424**	**34,775,731**	**29,189,693**	**167,372,891**	**38.22**

Source: *Data of Outpatient services, UC Scheme, from OP 43 files and OP E-Claim, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed on 8 February 2023 by Monitoring and Evaluation Cluster, NHSO.*

Note: *1. Calculated from several outpatient visits by Principal Diagnosis (PDx) exclude ICD-10 : Z00-Z99 and U50-U77*
2. Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.

Table 2-33

Top 10 Diseases of Inpatient visits in Elderly aged 60 years and older under the UCS Scheme in the Fiscal Year 2022

ICD10: principal Dx	IP-visit in Elderly (visits)	60-69 years: visits	>=70 years: visits	IP-visit all (visits)	% of IP visits in Elderly
1. J128: Other viral pneumonia	135,715	52,158	83,557	332,054	40.87
2. I500: Congestive heart failure	60,487	21,846	38,641	86,919	69.59
3. N185: Chronic kidney disease, stage 5	54,688	26,585	28,103	89,366	61.20
4. J189: Pneumonia, unspecified	52,935	17,389	35,546	115,606	45.79
5. N390: Urinary tract infection, site not specified	50,128	16,841	33,287	77,705	64.51
6. J441: Chronic obstructive pulmonary disease with acute exacerbation, unspecified	45,067	16,499	28,568	54,744	82.32
7. A099: Gastroenteritis and colitis of unspecified origin	37,225	15,778	21,447	129,461	28.75
8. H251: Senile nuclear cataract	37,210	17,628	19,582	43,566	85.41
H259: Senile cataract, unspecified	31,858	15,684	16,174	164,244	19.40
9. J028: Acute pharyngitis due to other specified organisms	33,267	16,089	17,178	40,289	82.57

Table 2-33

Top 10 Diseases of Inpatient visits in Elderly aged 60 years and older under the UCS Scheme in the Fiscal Year 2022

ICD10: principal Dx	OP-visit in Elderly (visits)	60-69 years: visits	>=70 years: visits	IP-visit all (visits)	% of IP visits in Elderly
10. I639: Cerebral infarction, unspecified	15,684	16,174	31,858	164,244	67.36
Top 10 Diseases	**570,114**	**230,287**	**339,827**	**1,180,769**	**48.28**
% Top 10 Diseases	**26.27**	**23.08**	**28.98**	**19.04**	**-**
Total	**2,170,525**	**997,984**	**1,172,541**	**6,201,940**	**35.00**

Source: *Data of Outpatient services, UC Scheme, from IP E-Claim, Fund Management Unit, NHSO.*
Data on 30 September 2022, Analyzed on 8 February 2023 by Monitoring and Evaluation Cluster, NHSO.

Note:
1. *Calculated from inpatient admissions by Principal Diagnosis (PDx)*
2. *Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.*
3. *Guideline for ICD10 coding reference to Thai Health Coding Center: THCC and MOPH defined coding J128: Other viral pneumonia and U071: COVID-19, virus identified in case of Inpatients who were diagnosed with COVID-19.*

Table 2-34

Top 10 Diseases of Inpatient visits in Elderly aged 60 years and older under the UCS Scheme who died after admission in the Fiscal Year 2022

ICD10: principal Dx	IP-visit in Elderly (visits)	60-69 years: visits	>=70 years: visits	IP-visit all (visits)	% of IP visits in Elderly
1. J128: Other viral pneumonia	8,769	3,032	5,737	11,613	75.51
2. J189: Pneumonia, unspecified	7,779	2,248	5,531	10,720	72.57
3. N390: Urinary tract infection, site not specified	3,103	721	2,382	3,662	84.74
4. I500: Congestive heart failure	2,905	919	1,986	3,912	74.26
5. I214: Acute subendocardial myocardial infarction	2,348	659	1,689	2,784	84.34
6. N185: Chronic kidney disease, stage 5	2,161	836	1,325	3,152	68.56
7. J690: Pneumonitis due to food and vomit	1,898	380	1,518	2,261	83.95
8. J440: Chronic obstructive pulmonary disease with acute lower respiratory infection	1,878	423	1,455	2,021	92.92
9. I610: Intracerebral haemorrhage in hemisphere, subcortical	1,838	816	1,022	3,234	56.83
10. C349: Malignant neoplasm of bronchus or lung, unspecified	1,807	802	1,005	2,517	71.79
Top 10 Diseases	**34,486**	**10,836**	**23,650**	**45,876**	**75.17**
% Top 10 Diseases	**37.20**	**33.08**	**39.45**	**32.05**	
Total	**92,701**	**32,758**	**59,943**	**143,155**	**64.76**

Source: *Data of Outpatient services, UC Scheme, from IP E-Claim, Fund Management Unit, NHSO.*
Data on 30 September 2022, Analyzed on 8 February 2023 by Monitoring and Evaluation Cluster, NHSO.

Note:
1. *Calculated from inpatient admissions by Principal Diagnosis (PDx)*
2. *Identified diagnosis/disease according to ICD-10-TM, refer to public health statistic, Ministry of Public Health.*
3. *Status of Discharge = Death (Discharge Type = 8 or 9)*
4. *Guideline for ICD10 coding reference to Thai Health Coding Center: THCC and MOPH defined coding J128: Other viral pneumonia and U071: COVID-19, virus identified in case of Inpatients who were diagnosed with COVID-19*

10.2.3 Elderly's accessibility to medical care

In regards to the accessibility to medical care for the elderly, the NHSO has discovered that 1. Rehabilitation services required by elderly had decreased from 2018 at 480,430 patients eliciting services at 1.789 million times to 385,377 patients at 1.197 million times in 2022, 2. Public healthcare for bedridden patients had increased from 2018's 128,739 patients ti 176,553 patients in 2022, 3. Cataract surgery had decreased from 103,190 surgeries in 2018 to 101,615 surgeries of which 51.24 percent was Blinding Cataract surgery increasing from 47.96 percent in 2018, 4. Artificial Denture tooth in the elderly had decreased from 47,674 times to 33,687 times in 2022, 5. OA Knee Surgery in the elderly had increased from 8,479 knees in 2018 to 8,678 knees in 2022, 6. Treatment for DM and Hypertension in the elderly starting with DM as an OP had decreased from 2019at 9.672 million cases to 9.119 million cases including a decrease in IP from 102,815 inpatients at 103,022 admissions to 98.856 patients to 99,046 admissions in 2022 while Hypertension in the elderly as in OP had decrease from 2019's 18.086 million visits to 17.263 million visits while the IP rates also decreased from 2018 at 40,245 patients incurring 40,328 visits to 33,375 patients rendering 33,413 visits, 7. Screening CA colon cancer, Fit Test method from 2019's 684,394 screenings, 5.36 percent were found abnormal while 2022's 621,596 screenings found an increase in abnormality at 7.49 percent (Figure 2-57).

As for the performances of Seasonal Flu vaccination for 7 high-risk groups consisting of 1. Women over 4 months pregnant, 2. 6 months to 2 years children, 3. Those suffering from these underlying chronic diseases: COPD< asthma, heart, cerebrovascular, renal failure, cancer patients receiving chemotherapy and MD, 4. Over 65 years old patients, 5. Thalassemic patients and immunodeficient patients (including HIV patients with symptoms), 6. Obese patients (over 100 kgs) and 7. Dependent cerebral palsy patients. For the 2022 year, the NHSO from the KTB database campaigning from May 1st till September 30th, 2022, had found that 3,936,739 individuals had received the vaccination of whom 1,338,957 individuals were 65 years or older (32.32 percent).

Figure 2-57 **Service in Elderly 60 years and over in UC Scheme in the Fiscal Year 2018-2022**

Figure 2-57 Service in elderly 60 years and over in UC Scheme, FY 2018-2022

Services in Elderly 60 years and over in UC Scheme		units	2018	2019	2020	2021	2022
Ratability in needed Elderly		Persons	480,430	486,798	437,108	397,248	385,377
		million visits	1.789	1.827	1.541	1.236	1.197
		Average visits	3.72	3.75	3.52	3.11	3.10
Long term care in Elderly		persons	128,739	76,106	147,171	163,204	176,553
		%ADL up	18.06	19.90	26.66	24.56	20.73
Cataract Surgery in Elderly		visits	103,190	112,326	99,995	77,722	101,615
Blinding Cataract Surgery		% Blinding cataract	47.96%	46.84%	47.31%	48.82%	51.24%
Artificial denture tooth in Elderly		Persons	47,674	50,500	41,708	37,077	33,687
OA knee surgery in Elderly		knees	8,479	8,842	8,139	6,524	8,678
(DM in Elderly patients)	OP	million visits	8.734	9.672	9.669	9.122	9.119
	IP	persons/visits	102,815/ 103,022	107,754/ 108,013	106,755/ 107,023	102,144/ 102,367	98,856/ 99,046
HT in Elderly patients	OP	million visits	16.320	18.086	18.164	17.340	17.263
	IP	persons)/visits	40,245/ 40,328	39,427/ 39,501	38,052/ 38,111	36,622/ 36,686	33,375/ 33,413
Screening CA Colon, Fit test method, 50-70 years		Persons)	-	684,394	565,910	581,588	621,596
		% abnormal	-	5.36%	5.67%	6.25%	7.49%

Source: 1) *Data of Outpatient and Inpatient services, UC Scheme, Fund Management Unit, NHSO. Data on 30 September 2022, Analyzed by Monitoring and Evaluation Cluster, NHSO.*
2) *Report for Monitoring and Evaluation for Payment: H0401, Monitoring and Evaluation Cluster, NHSO, Data on 30 September 2022*

10.3 Utilization of resources for UC elderly

The proportion of resources spent for UC elderly inpatient services when analyzed form medical treatment compensation based on the Sum of Adjusted RW, it has been found that in the 2022 FY the number of inpatients, the number of visits, the average days of stay had increased when compared to the former year. This increase reflects a higher compensation to be reimbursed for all age groups and over 60 years age group.

When compared to the proportion of resources, or IP resources utilizations of the elderly, the 2022 FY had seen 1 out of every 3 elderly utilizing inpatient services when compared to all age groups' number of inpatients, number of visits, and days of stay and was at 32.31, 35.05 and 35.11 percentages while the medical compensation, or Sum of Adj. RW, for every 1 out of 2 elderly, or 47.54 percent, when compared to all age groups had continuously increased from 2018's 43.92 percent (Table 2-35).

Table **2-35** **Number of persons, visits, Length of Stay, Sum of Adjusted Relative Weight and Case Mix Index of Inpatients all Age-groups and Inpatients of Elderly 60 years and over under the UC scheme in the Fiscal Year 2018-2022**

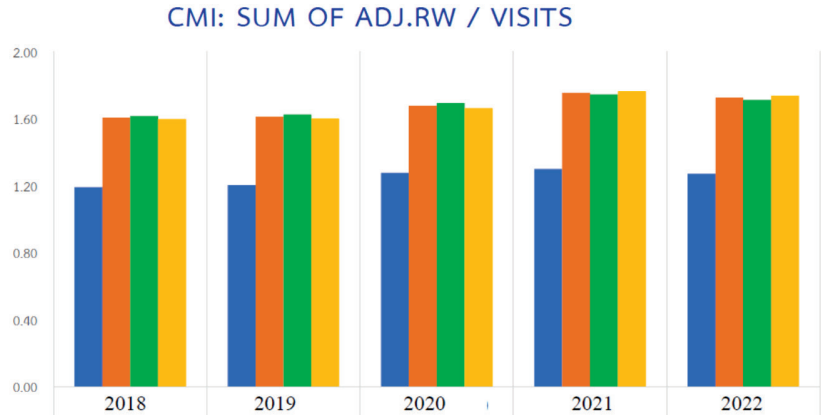
Fiscal Year	Inpatients of Elderly 60 years and over					Inpatients all Age-groups					% of Inpatients of Elderly to all Age-groups			
	million persons	million visits	million LOS	Sum Adj.RW (million)	CMI	million persons	million visits	million LOS	Sum Adj.RW (million)	CMI	%persons	%visits	%LOS	%Sum Adj.RW
2018	1.540	2.024	9.448	3.251	1.61	5.237	6.219	26.193	7.402	1.19	29.40	32.55	36.07	43.92
2019	1.605	2.107	9.668	3.395	1.61	5.301	6.30	26.285	7.584	1.20	30.29	33.44	36.78	44.77
2020	1.583	2.070	9.517	3.473	1.68	4.932	5.859	24.693	7.477	1.28	32.10	35.33	38.54	46.44
2021	1.538	1.988	10.098	3.488	1.75	4.968	5.811	29.704	7.550	1.30	30.95	34.21	34.00	46.20
2022	1.746	2.174	11.431	3.750	1.73	5.406	6.202	32.555	7.887	1.27	32.31	35.05	35.11	47.54

Source: Data IP services from IP E-claim, Data on 30 September 2022, Analyzed on 6 March 2023 by Monitoring and Evaluation Cluster, NHSO

The index reflecting the efficiency and health services performances provided by each service level and affiliation is the Case Mix Index (CMI), or Adjusted Relative Weight (Adj.RW) in allotted period of time. The CMI values indicate diversity of patients that is comparable with the CMI of similar healthcare settings to evaluate a hospital facility.

For the 2018-2022 Fiscal Years, the CMI-Adj.RW for all UC patients of all age group and 60 years and above had continuously increased between 1.19-1.30 and 1.6-1.75, respectively. The CMI for 2022 FY for patients of all age group was ta 1.27 while 60 years and above patients was at 1.73 classified into 60-69 years and 70 years and above patients having a CMI of 1.71 and 1.74, respectively; the CMI of elderly was at 1.36 when compared to the CMI of all other age groups.

Figure **2-58** **Case Mix Index Adjusted Relative Weight of Inpatients all Age-groups and Inpatients of Elderly 60 years and over under the UC scheme in the Fiscal Year 2018-2022**



	2018	2019	2020	2021	2022
IP CMI	1.19	1.20	1.28	1.30	1.27
IP Elderly CMI	1.61	1.61	1.68	1.75	1.73
IP 60-69 years CMI	1.62	1.62	1.69	1.74	1.71
≥70 years CMI	1.60	1.60	1.66	1.76	1.74

Source: Data IP services from IP E-claim, Data on 30 September 2022, Analyzed on 6 March 2023 by Monitoring and Evaluation Cluster, NHSO.

PART

3

Performance of The National Health Security Office

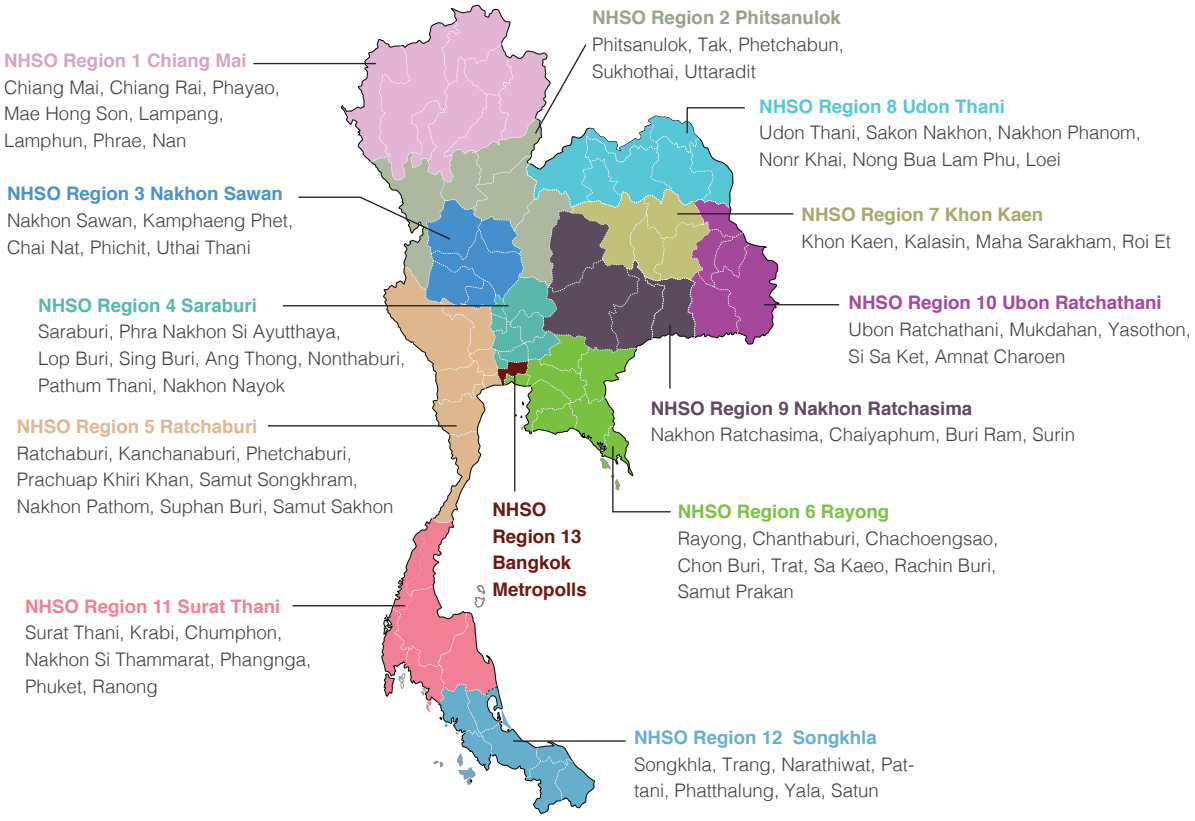
1. National Health Security Office

1.1 National Health Security Office: NHSO

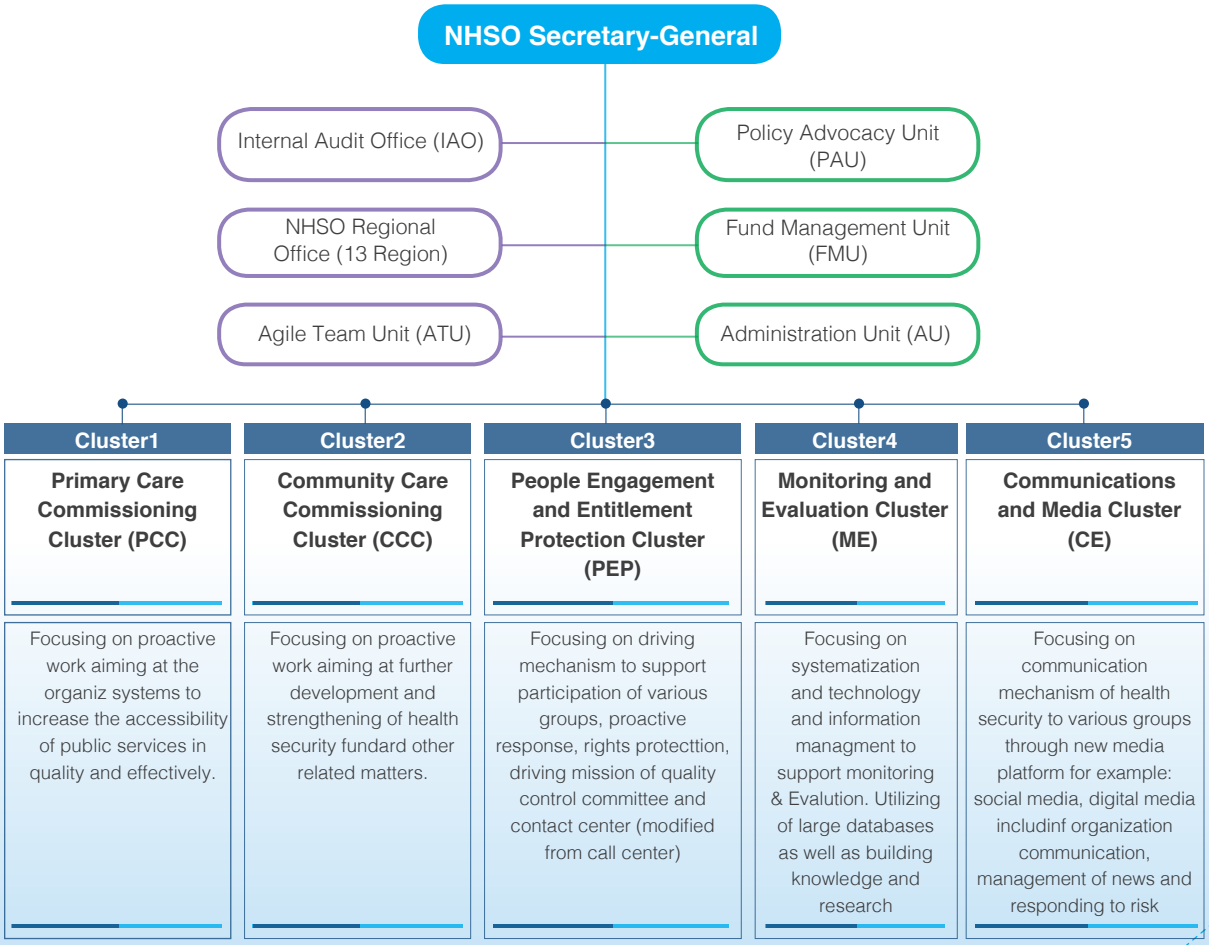
The National Health Security Office was founded following the National Health Security Act 2002, Section 24, decreeing the NHSO to become the public organization under the guidance of the Ministry of Public Health, acting as the secretary of the National Health Security Committee and the Public Health Quality and Standards Control committee.

The NHSO has the primary responsibility to build and develop the Universal Health Coverage for all Thai citizens (except those who are entitled to other insurances as organized by the government) to have access to quality and standard medical care.

The NHSO office is located at 120, Moo 3, 2nd -4th floors, The Government Complex Commemorating His Majesty the King's 80th Birthday Anniversary, 5th December, B.E. 2550 (2007), Chaengwattana Road, Thungsoghong, Lak 4, Bangkok, 10210. Telephone: 02141400, Fax: 021439830. Digital Access: www.nhso.go.th with 13 District branch offices as follows:



1.2 National Health Security Office: Structure



1.3 NHSO's Executive

Secretary-General
Jadej Thammatacharee

Dr.Jakkrit Ngowsiri
Deputy Secretary-General

Dr.Athaporn Limpanyalers
Deputy Secretary-General

Dr.Sinchai Tawwuttanakidgul
Deputy Secretary-General

Dr.Lalitaya Kongkam
Deputy Secretary-General

Dr.Aphichat Rodsom
Deputy Secretary-General

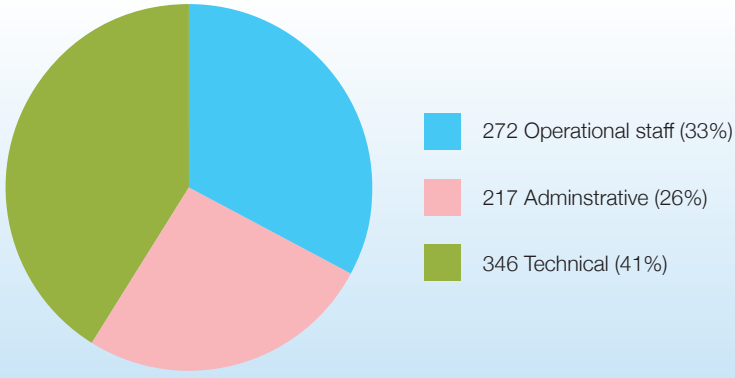
Dr.Yupadee Sirisinsuk
Deputy Secretary-General

Waraporn Suwanwela
Assistant Secretary-General

Benjamas Lerdchakorn
Assistant Secretary-General

1.4 NHSO's Personnel

NHSO personnel can be divided into 3 categories: high-level executive, academics, and operators with 835 employees hired on a yearly contract basis.



1.5 National Health Security Office Action Plan in 4th Edition, the Year 2017-2022 (Revised in the Year 2020-2022))

Vision:

Everyone who lives in Thailand covered by UHC and access to health care with confidence when needed

Mission:

Secure people toward effective equitable responsive Coverage, Access, and Utilization by evidence-informed decision and participation"

Specific Missions:

1. Promote and develop universal and equitable healthcare, within the National Health Security Fund, for citizens
2. Promote the development of accessible and standardizes public health, under the National Health Insurance, for citizens and providers
3. Continuous efficient Management of the National Health Security Fund
4. Ensure participation and ownership by all affiliated organizations and owners including building good relationships between providers and users whilst protecting their rights of human dignity of all citizens
5. Developing and compiling of evidence-based informing including other sources of information to be used for policy making

3 Goals of "CSG"

- **C :** Effective, Equitable and Responsive Coverage
- **S :** SAFE Financing System
- **G :** Good Governance

10 Indicators to be achieved by 2022

Goals	Indicators and Targets
Accessibility 	1. 1 in every 3 persons have an Effective Coverage 2. Over 80% will use outpatient and over 90% inpatient's services. 3. Over 90% of users and 75% of providers are satisfied with services
Financial Security 	4. Healthcare Expenditure to remain within 4.6 to 5% of total GDP 5. Healthcare expenditure to remain within 17 to 20% of governmental expenditure 6. Less than 2.3% of households face Catastrophic Health Expenditure 7. Less than 0.4% of households face with Health Impoverishment
Good Governance 	8. A success rate of 1 in 3, every 5 years, in commitment and accountability of the National Health Insurance and Quality and Standard Control committees of the National Health Insurance and Quality and Standard Control committees 9. Over 80% success rate of a highly efficient organization 10. Over 90% success in the Integrity and Transparency Assessment according to the ONACC

5 ensure plans

PLAN 1

Ensure coverage and access for vulnerable and underutilization groups

PLAN 2

Ensure quality and adequacy of health services

PLAN 3

Ensure financial efficiency

PLAN 4

Ensure participation and ownership of all stakeholders

PLAN 5

Ensure good governance

1.6 Performance of 10 objectives as the National Health Security ffice Action Plan in 5 Years

In the Fiscal Year 2022, the performance of 10 objects as indicated by the National Health Security Office's Action Plan within 5 years in order to successfully attain 3 goals: "Effective, Equitable & Responsive coverage, SAFE Financing System, Good Governance ", and 10 objectives are summarized as follows:

Table 3-1 **Performance of 10 objectives as National Health Security Office Action Plan in the Fiscal Year 2022**

Targets	Indicators	Performance in 2019	Performance in 2020	Performance in 2021	Targets in 2022	Performance in 2022
1. Effective Equitable & Responsive Coverage	1. Effective Coverage: EC	Evaluation of the effective coverage for HIV/AIDS patients at 72.5%	Evaluation of the effective coverage for HIV/AIDS patients at 77.5%[1]	Effective Coverage for UC HIV patients to be no lower than 78.7%	Effective Coverage for UC HIV patients to be no lower than 78.7%	Evaluation of the effective Coverage of HIV/AIDS patients at 83.61%[1]
	2. Compliance rate: IP	N/A[2]	85.26%[2]	N/A	No lower than 90%	88.50%[2]
	3. Percentage of beneficiary satisfaction Percentage of providers satisfaction.	97.11%[3] 75.99%[3]	97.64% 83.45%[3]	97.07% 80.94%[3]	No lower than 90% No lower than 75%	97.69% 86.19%[3]
2. SAFE: Financing System	4. Percentage of Total Health Expenditure: (THE) in proportion to Gross Domestic Product (GDP)	4.05%[4]	N/A[4]	N/A[4]	Between 17-20%	4.55 %[4]
	5. General Government Health Expenditure: GGHE) in proportion to General Government Expenditure: GGE	16.49%[4]	N/A[4]	N/A[4]	Between 17-20%	14.64%[4]
	6. Catastrophic health expenditure	1.97%[5] (or 431,000 households)	1.93%[5] (or 431,500 households)	N/A[5]	No more than 2.3%	2.10%[5] (or 475,500 households)
	7. Health impoverishment	0.19%[5] (or 41,000 households)	0.21%[5] (or 46,000 households)	N/A[5]	No more than 0.47%	0.22%[5] (or 49,000 households)
3. Good Gover-nance)	8. Success Rate of commitment and accountability of the National Health Security Board and the Quality and Standard Control Board.	NHSB and HSQCB to conduct a policy dialogue on Universal Healthcare Coverage in the New Era of Disruptive Technologies to	NHSB and HSQCB to conduct a policy dialogue on 'emphasizing the importance of Health coverage for Thai citizens' and "Health	NHSB and HSQCB to conduct a policy dialogue on healthcare database to established based on the concept of	Presentation of commit-ment and accountability to the committee	NHSB and HSQCB to conduct a policy dialogue on "Board Relation and Empowering" making mutual understanding of

Table 3-1 **Performance of 10 objectives as National Health Security Office Action Plan in the Fiscal Year 2022**

Targets	Indicators	Performance in 2019	Performance in 2020	Performance in 2021	Targets in 2022	Performance in 2022
		adapt the NHSO and related systems to the wave of disruptive technologies.	Coverage for Thai citizens: dream and reach the dream" attended by various esteemed individuals, who had debated and exchanged knowledge on health and society after COVID-19	responsibilities, commitment, and accountability		laws related to UCS and other laws that support the NHSO's powers and duties for effective operation and in accordance with the goals of laws. The 2 boards decided frame, issues, and direction for UCS development and NHSO management for the next 5 years
	9. Highly Efficient Organization [6]	66.80% (Scored 334 out of 500 total)	74.20% (Scored 372 out of 500 total)	75.20%[6] (Scored 376 out of 500 total)	No lower than 80 % (Scored 400 out of 500 total)	84.69%[6] (Scored 376 out of 500 total)
	10. Integrity and Transparency Assessment according to the public sector assessment percentage	89.25%	91.28%	89.42%[7]	No lower than 9 0%	89.14%[7]

Notes:
1. *National AIDS Management Center (NAMc), Department of Disease Control, Ministry of Public Health 2020, aspublished on April 30th, 2021 Nominator: 383,727 HIV/AIDS patients from all schemes that had received antivirals and was able to suppress the viral load (VL<1000 copies/ml, suppressed) Denominator: 501,105 HIV/AIDS forecasted patients equaling to 76.6 percent*
2. *The Health and Welfare Survey, National Statistical Office, 2019 (surveyed every two years), as analyzed by Dr. Suphol Limwattananont on November 18th, 20202*
3. *National Health Security Satisfaction Survey 2019 as analyzed by Thammasat University, and 2020 by Research Center for Social and Business Development (SAB) while 2021 was by Brand Matrix Research Co. Ltd.*
4. *Annual Healthcare Expenditure, 2019, International Health Policy Program (IHPP), Ministry of Public Health (Healthcare Expenditure Data from 2020-2021 is under accumulation)*
5. *Household Socioeconomic Status and Survey, National Statistical Office 2020 (2021's data is under accumulation) as analyzed by International Health Policy Program (IHPP), Ministry of Public Health; households with Catastrophic Health Expenditure are households with more than 10% of their income disposed to healthcare while households that have is Health Impoverishment are households under the poverty line after having dispersed funds for healthcare*
6. *High Performance Organization as assessed according to the 7 components to developing into an HPO consisting of 1. Organizational Leadership, 2. Strategic planning, 3. Prioritizing Users and Stakeholders, 4. Measurement, Analysis and Knowledge Management, 5. Employee Focus, 6. Operation Focus, 7. Operation Outcome. The success rate was cited according to the scores and assessment frameworks of the Public Sector Management Quality Award: PMQA 4.0 divided into 3 levels: Basic 300 points, 2. Advance 400 points, 3. Significance 500 points*
7. *According to the Office of the National Anti-Corruption Commission's Integrity & Transparency Assessment based on the 5-index consisting of 1. Transparency Index, 2. Accountability Index, 3. Corruption-Free Index, 4. Integrity Culture Index, 5. Work Integrity Index consisting of 3 investigative tools: Internal Stakeholders' perception, 2. External Stakeholders' Perception, 3. Empirical Evidence.*

1.7 National Health Security Office Action Plan 5th Edition, the Year 2023-2027

> “Implemented Universal Health Coverage is one of important policies for Tha i government especially the Universal Coverage Scheme because it is the heart mechanism that help Thai citizens who have no rights of Civil Servant Medical Benefit Scheme, Social Security Scheme, and other health insurance welfare providing by the government access health services according to their need without financial problems even high cost diseases.”

Universal Coverage Scheme

National Health Security Act B.E. 2545

Sustainable development
With participation of all sectors
Public sector, Private sector, Civil sector

Vision:

Everyone who lives in Thailand covered by UHC and access to health care with confidence when needed

Mission:

Secure people toward effective equitable responsive Coverage, Access, and Utilization by evidence-informed decision and participation”

Specific Missions:

1. Promote and develop universal and equitable healthcare, within the National Health Security Fund, for citizens
2. Promote the development of accessible and standardizes public health, under the National Health Insurance, for citizens and providers
3. Continuous efficient Management of the National Health Security Fund
4. Ensure participation and ownership by all affiliated organizations and owners including building good relationships between providers and users whilst protecting their rights of human dignity of all citizens
5. Developing and compiling of evidence-based informing including other sources of information to be used for policy making

5 Strategies

- **Strategy 1** Operation and management of the National Health Security Fund
- **Strategy 2** Providing public health services for people access to care
- **Strategy 3** Right protection for people’s health insurance
- **Strategy 4** Participation of strategic network and stakeholders
- **Strategy 5** Governance

Goals

All people access to services when need

The National Health Security Fund is effective and sustainable

Good governance

Strategic Framework

4 Participation of strategic network and stakeholders

- 4.1 Scaling up Co-owner of UCS
- 2.2 Driving Global Health Coverage Policy

2 Providing services for access to care

- 2.1 Increase service units
- 2.2 Promote quality accreditation, ensure confidence

3 Protection of Universal Health Coverage

- 3.1 Return health information to people
- 3.2 Find out the vulnerable/not access to services or rare access.
- 5.3 Perception/Rights and Right protection
- 5.4 Review/Revised benefit packages

Participation & Engagement (4)

Satisfaction & Trust

Financing (1) — Efficiency / Effectiveness → **Provider/ Service Delivery (2)** — Quality Safety / Equity → **Beneficiaries (3)**

Good Governance (5)

- Access & Coverage
- Financial Protection
- Satisfaction

1 Administration and management of the Fund

- 1.1 Increase efficient management of the Fund, Intensive payment
- 1.2 Expand the roles of LAOs & effective Local Fund management
- 1.3 Integrated public health insurances
- 1.4 Driving for long term sustainable of health financing

5 Governance administration & management

- 5.1 Increase strength and competency of Governance
- 5.2 Digital and Innovation Organization
- 5.3 Increase the competency of M&E and utilize Bid Data
- 5.4 NHSO's staff development: Good, Smart, Profession, Happy
- 5.5 Development/revise administration & management system

Source: Adjusted from Health System Performance Assessment: The Framework for Policy Analysis, WHO, 2022

10 Indicators to be achieved by 2027	
Goals	Indicators and Targets
People Access to services according to their need 	1) Effective coverage more than 90% by 2027 2) Compliance rate – IP more than 89% by 2027 3) Satisfaction: Beneficiaries no less than 85% by 2027 Providers no less than 85% by 2027
National Health Security Fun Efficiency and Sustainability 	4) Health expenditure in proportion with Gross Domestic Product no more than 5% by 2027 5) Health expenditure in proportion with National expense no more than 20% by 2027 6) Poorest Household (Q1) with catastrophic health expenditure*** no more than percentage of all household with catastrophic expenditure +2 SD by 2027 7) Households with health impoverishment no more than 0.25 by 2027
Administration and Management with good governance 	8) Mutual Commitment and Responsibility of the committees Level 5 9) Achievement of high effective organization no less than 80% by 2027 10) Level of governance and no corruption according to the National Anti-Corruption Commission no less than 90%

1.8 Efficiency of Administration of the National Health Security System

In the fiscal year 2022, the NHSO pushed efforts to manage the Universal Coverage Scheme to increase the efficiency of system according to the NHSB's policy. Evidenced based information on achievement and award as the followings.

1. The Valuable Open Data Set Awards: NHSO was one of forty-nine governmental organizations got "the Value Open Data Set Awards 2022" or DIGI Data Awards 2022, on November 7th, 2022hosted by Data Innovation & Governance Institute or DIGI, Government Development Agency (Public Organization. NHSO's performance was disclosed open-government data sets to public and other organizations on Open Government Data (Open Government Data, https://opendata.nrct.go.th/). It was the creation of culture to use data for decision-making, and to support organizational cooperation for exchanging data and change working behavior to Data Driven Organization.

To make use and get benefits of the big health data, NHSO have conducted data processing, analyzing, and returned health data to public and organizations with Infographic on Dashboard. It was easy to understand both data for service units and public for the purpose of monitoring performance and access to services respectively. The example of data on Dashboard were services for COVID-19, health promotion and disease prevention, kidney disease, diabetes and hypertension, Flu vaccination, Telemedicine service, cancer anywhere and patients access to medicines and medical supplies. NHSO are in the process of developing other data on Dashboard for public endlessly.

NHSO has paid attention to the development of basic infrastructure of technology and other service systems including applications constantly. These technologies are NHSO website, NHSP application, line @nhso and Facebook: สำนักงานหลักประกันสุขภาพแห่งชาติ Everyone can access these channels, process, and get response in real time by themselves such as right confirmation, register, and Authentication.

With the advanced digital and technology information system at present, NHSO set up the main computer system and a reserve computer center. NHSO also launched New e-Claim for service units to handle disbursement data online, including AI for checking correctly and rapidly. Since NHSO is acting as the National Clearing House (NCH), data from the gold health card, and other public health insurance schemes from service units both public and private sectors were stored, hence NHSO is a big public health warehouse of the country or Big Data.

2. Outstanding Social Security Award from ASEAN Social Security Association-ASSA): NHSO has received outstanding social security award for 7 years consecutively in the them of “Innovation Recognition Award” from the topic “Thailand Japan Partnership Project for Global Health and Universal Health Coverage”.

Since the National Anti-Corruption Commission implemented the project on Integrity & Transparency Assessment (ITA) aimed to develop effective administrative system for anti-corruption, NHSO got ITA 89.14 scores from 100 total, Grade A

2. NHSO Performance in the Fiscal Year 2022, under NHSO Action Plan 2018-2022

2.1 Plan 1 Build confidence on access to health services of the vulnerable group and the group of people not yet access to health services.

1. Actions under Section 9 and Section 10 of the National Health Security Act B.E. 2545

Thailand achieved Universal Health Coverage under 3 public health insurances: (1) Universal Coverage Scheme covered 47.18 million citizens, (2) Social Security Scheme covered 12.75 million citizens and (3) Civil Servant Medical Benefit Scheme cover 5.30 million citizens (Data as of September 30th, 2022. There are also other health insurance welfares such as health insurance for local administrative organization's staff, state enterprise, independent organization, and other governmental organizations. The Universal Health Coverage System is operated by the National Health Security Board under the National Health Security Act B.E. 2545. The intension to issue this act came from the redundancy of government health welfares. Aside from session 52 and session 82 of the Constitution of the Kingdom of Thailand commands Thai government to provide public health services which are necessary for health and living, standard treatment, and all citizens receives standard services which were monitored for standard of services by an assigned or assigned organization, Thailand also had many other health

welfare systems supported by Thai government resulting in redundant reimbursement. To reduce the complicated government health welfare system, it was necessary to integrate and manage all these systems to reduce cost and increase efficiency. This is the root cause of provision in Session 9: the scope of right to health services of government officials, officials, and employees working at government organizations, Local Government Organizations, State enterprises, and other state agencies, including dependent persons entitles to medical benefits based on the right of these persons. Session 10: the scope of right to health service of the persons eligible under the Social Security Law, by assigning Social Security Office allocate budget for health service of the beneficiaries according to agreement and decree to the National Health Security Fund which session 66 commanded to issue the decree according to session 9 and session 10 within 1 year when the National Health Security Act B.E. 2545 has a legal force. If it has not finished yet, it shall be expanded 1 year at a time. NHSO or the Social Security Office or both organizations, as the case may be, reports to the cabinet the reasons for inability to perform and discloses the report to public.

In the past 2 decrees according to session 9 were issued (1) The decree stipulating that parents, spouse and legitimate child of principal or private teacher have the right to public health services according to the National Health Security Act B.E. 2549 and (2) The decree stipulating that staff or employee of Local Administrative Organization and their family members have the right to public health services according to the National Health Security Act B.E. 2556. Right now, NHSO is preparing to issue the decree according to session 9 of the National Health Security Act, for staff working at State Railway of Thailand to have the right to access health services according to the act which will be issue the decree and start to operate in the fiscal year 2023.

The Comptroller General Department and the Social Security Office explained the reasons and limitations for being unable to operate according to the decree issued by session 9 and session 10 under the National Health Security Act B.E. 2545 the following.

- **The Comptroller General Department,** an organization that operates health welfare for Thai citizens mentioned in session 9(1)(4) clarified the causes and limitations of operation according to the decree mentioned above as following.

1) Provision of the laws for 3 Funds are different in practice. In part of the Civil Servant Medical Benefit Scheme, it should be considered the possibility for operation according to the provisions of 2 laws: The Decree over money for treatment welfare and the National Health Security Act.
2) Action according to the decree issued follow session 9 muse be careful, and consult with relevant organization, public hearing form stakeholders because it has the effect on person's right to health services which is vey delicate and need more information for government's decision.
3) The Comptroller General adjusted the welfare reasonably focusing on integrated work as the same direction of 3 Funds which was accepted from stakeholders (the eligible under CSMBS)

- **Social Security Office,** an organization that administered the Social Security System for people according to session 10, informed that the office is in the process of consider this action by set up the Subcommittee on Studying the Deal for people who have the rights consistent with the Social Security Law turn to the right of medical services according to Session 10 of the National Security Act.

NHSO has been ready for action according to session 9 and session 10 and inquired about readiness of relevant organizations. Known limitation and had reported the rationale for being unable to perform duties according to mentioned session to the cabinet according to session 66 of the National Health Security Act continuously. At present, NHSO is in the process of proposing the cabinet for expanding of issuing decree according to session 9 and 10 of the

National Health Security Act for the year 2022 and the NHSB has approved already on November 7th, 2022. The Subcommittee on driving harmonization is in the process of considering direction and plan to drive session 9 and session10.

Even previous action following session 9 and session 10 under the National Health Security Act B.E. 2545 has not achieved yet, three organizations responsible for management of the 3 Funds which include NHSO, Social Security Office, and the Comptroller Department have cooperated to integrate the management of rights (types and scope of health services) and reimbursement for appropriateness, consistency and reducing inequality among the Fund continually. Cooperation has been conducted through the Committee, the Subcommittee, and the Task Force in order to help 3 Funds operate in harmony, same standard, and reduce complicated disbursement. The following are examples.

1) Management during COVID-19 Outbreak.
   - Integrated Benefit packages for the same standard among all health insurance scheme which includes receiving services, payment of compensation and information technology of COVID-19
   - Connecting COVID – 19 databases in 3 health insurance funds for mutual benefits which composted of service data and reimbursement data.
   - NHSO 1330 Contact Center was the main channel of the country providing communication and cooperation services to all people and all schemes.
2) All Thai citizens in all health insurance schemes get health promotion & disease prevention services (P&P) and long-term care for dependents in the community with the same standard and management system under the UCS to reduce the complexity of reimbursement for services.
3) Revised the scope of benefit packages and reimbursement rate among 3 health insurance funds for appropriateness, consistency, and same direction such as assigned cancer, renal disease, tuberculosis, and rare diseases

The 5th National Health Security Office Action Plan B.E. 2556-2570 stated that “To support the integration of public health insurance system” is one of strategic issues under the management and administrative national health security fund strategy, in order to drive national healthcare system reform or other plans relevant to integrated governmental health insurance system, increase efficient management, reduce disparities, and build harmonization among government health insurance funds.

(Source: division of driving policy and strategy, NHSO.)

2.2 Plan 2: Ensure standard and appropriate services.

2. Supporting the implementation of the Primary Healthcare System Act. B.E. 2562

Primary Health Care: PHC is an important mechanism of public health system to support and facilitate people's access to services thoroughly and comprehensively. The Ministry of Public Health has a policy on driving PHC to help people access health services, reduce waiting time, decrease health expenses, supervise selfcare and family care when get a little bit sick. NHSO has co-supported with MOPH for PHC according to the National Health Security Act B.E. 2545 and has allocated budget to support PHC delivered services at PHC level in the New Normal lifestyle which consistent with social distancing, resulting in increase efficiency of services, reducing congestion in hospitals, waiting time, travel costs, and risk of COVID-19 infection.

In the fiscal year 2022, NHSO allocated budget to support PHC as per the Constitution of the Kingdom of Thailand B.E. 2560, session 258 (5) which assigned "Providing primary medical care with family doctor delivering care to people at appropriate proportion", and Primary Health System Act. B.E. 2562. Consequently, increase access to primary care services in service networks and communities, Bangkok and municipalities. NHSO has assigned 319.28 million baht which covered primary health care services with family doctor, New normal services and other innovative services such as medicine and medical supplies from pharmacies, drug delivery/ postal delivery, Telehealth/Telemedicine, nursing and midwifery, and mobile laboratory.

Besides, on 11st September, the Office of Permanent Secretary of the Ministry of Public Health and the National Health Security Office signed a Memorandum of Understanding in order to develop primary health service information technology in as per Primary Health Service Act B.E. 5019. Service recipient registration, Family medicine network, and Primary care service team were established to materialize primary care services effectively and rapidly in all aspects.

Outputs and outcomes performance evidenced that there were 3,451 PCU and networks, covered 57.74 percent of the eligible, while 1,296 PCU was allocated budge (37.55 percents), 1st ANC visit within the first trimester of gestation 96.44%, cancer screening in women aged 30-59 years within 5 years 27.28%, flue vaccination in target group 76.58%, and primary care unit with high competency and good outcome (performance according to indicators more than average at least 2 index) 88.04%

The situation of COVID-19 outbreaks during the past 2 years, including advance of information technology in public services, NHSO has encourage to care for COVID-19 patients at home via telemedicine, and expanded to chronic disease patients such as diabetes, hypertension and psychiatric patients in community. Services in the New Normal lifestyle was also promoted aimed to reduce epidemic of COVID-19 and infection to recipients. It was also facilitated to general patients. Although COVID-19 outbreaks decline, NHSO are still supporting PHC to deliver services in the New Normal lifestyle.

In 2023, NHSO will support PHC units for providing care with telemedicine, patients receive medicine from pharmacy close to their home/drug delivery, private laboratories for blood, stool, urine examination. Pilot project will be conducted in Bangkok or service unit which is ready to expand Telemedicine/ telehealth.

NHSO will drive the primary service system in 2023 to push "New Normal innovation", intending to increase access to services especially in the urban area, accelerate care for the vulnerable, and increase/expand primary care benefits which include

disease prevention, health promotion, treatment and rehabilitation, and access to UCS's services. The appropriate number of services units is a crucial factor for access to services, but the limited number of services units especially in urban areas resulting in obstacle of access to services. In 2023, NHSO will develop an Action plan to drive primary health care services which compost of 3 dimensions.

1. Supporting innovative service which in concordance with necessary new normal lifestyles such as Telemedicine/telehealth, follow-up chronic disease patients, primary treatment through digital applications in 42 common illness, the hotline quit smoking 1660, Mental health hotline 1323), and automatic condom dispensing machine.

2. Set up primary care service units with multi health professionals located in communities to facilitate and increase access to services for the beneficiaries and the vulnerable. This includes mobile health services, postal medicine delivery, picking up medicine at pharmacies, laboratory services outside service unit, and homeward/hospital care at home. In providing service with Telemedicine/telehealth, recipients must have computer or mobile phone and internet which a number of people especially the vulnerable living in slum could not support themselves. NHSO will coordinate to provide mobile health services in communities especially Bangkok and big urban areas which have not enough primary health service units. NHSO will help set primary service units convenient to access such as private clinic, dental clinic, nursing clinic, rehabilitative clinic, laboratory clinic, pharmacy, including municipal service units such as rehabilitative clinic and Thai traditional clinic. Approximately 70-80 % of illness can be cure at primary care units which cove treatment, health promotion, disease prevention (P&P), and rehabilitation. In addition, a lot of labor in workplaces could not access to P&P, NHSO will coordinate with employers which their workplaces have nursing room providing care by nurse/physicians to engage in UCS's service units for providing P&P and HHSO will allocate budget to support.

3. Adjustments to the payment mechanism from the original capitation payment incurred by beneficiaries registered with the regional unit to pay as service-rendered in the set price, or called as Fee Schedule, by the NHSO to increase confidence in beneficiaries using the primary health care services. Apart from the OP Anywhere model, the health promotion and disease prevention had made additions to the Fee Schedule model form the original 9 items to 22 items to increase variety of services starting with antenatal screening, postpartum screening, anemic screening, free iron and folic acid supplementary tablets, family planning and contraception of unwanted pregnancies, screening and evaluation of physical and mental health risks, tDAP vaccination services, and seasonal flu vaccinations including fluoride coating for at-risk groups. The item lists also contains therapeutic rehabilitation for intermediate care at home or in community including prescription of herbal medication of which 10 are in the list with cannabis extracts and herbs with cannabis supplements.

The primary health care system is a critical tool to the public healthcare system for beneficiaries to receive essential care; it is even more essential for overcrowded areas to a variety of primary healthcare centers. Recognizing such needs, the NHSO had proactively elevated the primary healthcare services including decreasing overcrowdings in hospitals through the utilization of innovations for the New Normal lifestyles.

2.3 Plan 3: Build confidence in health funds management

3. Integration to establish a harmonized in the 3 Health security system; CSMBS, SSS and UCS

Thailand has 3 critical health insurance schemes: Universal Coverage Scheme, Social Security Services, Civil Servants Medical Benefit Scheme; each of the scheme has its own rules, regulations including its own source of funding, which may be the factor leading to benefit disparities and accessibility to health services by beneficiaries of each scheme.

Therefore, to attain harmony, consistency and standard in all three schemes, the three management committees of the three schemes namely NHSO, the Comptroller's General Department and the Social Security Office had integrated their various projects through committees, subcommittees and working committees such as the national public health reform committee as assigned to the NHSO as the main agency to drive the 4th reformation of the insurance and funds to achieve unity, integration, remains fair, accessible, sufficient and financially sustainable based on the public health's National Strategy (Revised edition). The operation of the project is under the assigned subcommittee supervised by the NHSO committee and relevant committees.

To date, the integration of the three insurance schemes has yielded significant results allowing the expansion of essential benefits packages, compensation mechanism and mechanisms for the integrative management of the 3 insurance schemes:

- **Management of COVID-19 patients** that is consistent and of the same standard by the 3 schemes including integrating information systems to monitor and evaluate the COVID-19 pandemic situation, adjusting the payment mechanisms for diagnosing and treating COVID-19 patient with the NHSO acting as the Clearing House for all insurance schemes' funds treating all funds with fairness and the same standard.
- **Health Promotion and Disease Prevention including Long Term Care for dependent persons** by all schemes in the same standards and under one system under the supervision of the NHSO for all Thai citizens; this has led to a decrease in repeated payments from each fund.
- **Adjustments and Expansion of benefits, payment rates including management of all three schemes** to be appropriate, consistent, of the same standard and move in the same direction specifically for diseases such as cancer, renal failure, tuberculosis, rare diseases, UCEP through the central pricing of medical devices, M&E of payment for services incurred and quality of services, payment administration, information systems, Call Center

Even though the three schemes have been moving in the same direction, there have been disparities in accessibility of beneficiaries from each scheme in regards to the payment and accessibility methods. Therefore for the 5th Government Action Plan of the NHSO, 2023-2027, approved by the NHSO committee on 1st August, 2023, had prioritized " Integration of Public Healthcare Schemes" as a strategy to better manage national health funds in order to revolutionize healthcare of the nation. This is the end-goal of eliminating disparities and increase consistency between national health funds. In addition, the NHSO committee had also declared policies on increasing efficiency in the management of NHSO on 4 agendas consisting of: 1. CA Anywhere, 2. No need for referral forms, 3. Beneficiaries can change service e unit without the 15-day wait, and 4. OP Anywhere for achieving equal, equitable and immediate care anywhere.

Challenges to integrate harmonization among 3 health insurance funds, it found that even Thailand achieved universal heath coverage and access to

necessary services but still some group must be caring such as the vulnerable and non-Thai citizens living in the kingdom of Thailand in order to reduce effect to health and public health system. In addition, the burden of government health expenditure that is inequality allocate to 3 funds, the unity of reimbursement which will be affect to government budget and expense in long term, expanding and integrating necessary benefit packages in order to set standard of benefit and services among 3 health insurance funds equally, unity, and sustainably.
(Source: Driving policy and strategy, NHSO

4. The role of NHSO in transferring Primary healthcare units from the Ministry of Public Health to Provincial Administrative Organizations

The Constitution of the Kingdom of Thailand, session 250 has stipulated that a Local Administration Organization has the duties and powers to regulate and provide public services and public activities for the benefits of people in locality, by provision of the laws relating to mechanisms and process for decentralization of duties and powers as well as budget and personnel related thereto of the government sector to the Local Administrative Organization.

The Decentralization to Local Administrative Organization Commission, by virtue of the Determining Plans and Process of Decentralization Act B.E.2542 (1999) session 12(4), session 15, session 17 (29), issued the Notification of Regulations and Procedures on the mission Transferred of Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini, and the Tambon Health Promoting Hospital to Local Administrative Organizations (in the Royal Gazette on 19th October 2021) has essence related to NHSO as follows.

Clause 2 Assigned Provincial Administration Organization to be transferred the missions of Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospital has duties and power related to prevention and treatment, health promotion, basic treatment, rehabilitation, and consumer protection.
Clause 3 Assigned Provincial Administration Organization to be transferred the missions of Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospital shall have appropriate allocated budget from the government and have no burden of financing to Provincial Administration Organization at least must be receive allocated budget according to process of transferring mission assigned by the Decentralization to Local Administrative Organization Commission

Clause 7 Assigned all governmental agencies, related organizations, and Provincial Administration Organizations perform according to regulations and procedures of transferring Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospital prescribed by Decentralization to Local Administrative Organization Commission attached to this notification.

The situation of transfer service units in the Fiscal Year 2023

49 Provincial Administration Organizations wishing to request transfer of Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospital in the fiscal year 2022, and pass readiness assessment with 4 criteria; organization structure, personnel, fiancé and resource management, and public health & quality of life plan, and there are 3,263 out of 9,775 (33.39 percent) Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospital under the Office of the Permanent Secretary of the Ministry of Public Health requested transfer (Data as of September 21st, 2022). There were 11,005,015 out of 32,982,389 (33.37%) beneficiaries UCS registered for primary care services with Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and the Tambon Health Promoting Hospitals.

The Roles of the National Health Security Office and transfer of Primary Care Units.

NHSO has the roles in transfer public health mission pursue to the Notification of Determining Plans and Process of Decentralization to Local Government Organization Commission (Attached Notification clause 3.1 and clause 3.2) as followings:

1. Mechanism for supporting and encouraging at national level: Sub-committee on Transfer Public Health Mission Administration to Local Administration Organization in the Committee on decentralization to Local Administration Organization has duty and authority to manage transfer of mission, personnels, budget, and asset as assigned in the Prescribing Decentralization procedure to Local Administration Organization Action Plan which there is a representative from NHSO in the Sub-committee. (According to the Committee on decentralization to Local Administration Organization's order 4/2564 dated October 5th, 2021)

2. Mechanism for supporting and encouraging at local level: The Local Health Committee of the Provincial Administration Organization has its duty and power to prescribe policy on monitoring and development of public health of Provincial Administration Organization has been transferred Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital, according to Assigned Procedure of Decentralization to Local Administration Organization Action Plan which there is a representative from NHSO in the Sub-committee.

3. Collaboration with the Ministry of Public Health: to prepare budget considering assigned Standard Operating Procedure: SOP) and rehearse understanding to regular service units under primary care service network adhere to allocate budget and support medicines and medical supplies, and personnels to Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital transferred to Local Administration Organization and report to Sub-committee on Transferred Public Health Mission Management to Local Administration Organization about public health service fee from NHSO to primary care service unit under the resolution of NHSB and the Co-committee between MoPH and NHSO.

NHSO's performance of transferring primary care service units.

1. Resolution of the National Health Security Board

At the 2/2565 meeting of the National Health Security Board on February 7th, 2023, the board approved guidelines of the National Health Security Fund Management Model in accordance with Public Health Decentralization Policy which include rationale, alternative, allocation of NHSF to primary service units as the followings.

1) Rationale: After being transferred to Local Administration Organization, Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital remained the same status of primary care service units and network of UCS service units which will be a network of service units under MoPH (Community Hospital, General Hospital, Regional Hospital) or a network of service units outside MoPH, a network of service units under LAOs, a network of private service units etc.

2) Alternative: Allocation of budget from the National Health Security Fund to primary care service unit model.

- 2.1 Allocate budget through regular units (CUP)
- 2.2 Direct allocation to Tambon Health Promoting Hospital under conditions agree with regular units.
- 2.3 Other alternatives (if any) However, each service unit can select any alternatives without having to do the same.

2. Resolution of the Joint Committee between NHSO and MoPH.

Under the principle of "People were not affected, new benefits that people will receive no less than before, can get services in the area as before and service unit can provide services no different from the past."

1) Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital being transferred to Provincial Administrative Organization get budget under the item of OP service fee, health promotion and disease prevention for basic services (PP Basic services), medical fee disbursement in the form of investment budget (depreciation) under the agreement between regular unit (CUP) and Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital or Provincial Administrative Organization

2) NHSO allocate budget directly to Health Center Commemorating His Majesty the King's 60th Birthday Nawamintrachini and Tambon Health Promoting Hospital transferred to Provincial Administrative Organization according to the agreement of clause 1

3) NHSO's Principle of service fee allocation to service units being transferred.

1) Follow the resolution of NHSB and the Notification of the Committee on decentralization to Local Administrative Organization.
2) Consideration for people's benefits of access to health services, people can access to services with standard no lower than before transfer.
3) Transferred service units are the same status of primary care services or network of the old service units as before being transferred.
4) In transition, NHSO will remain beneficiaries to the beginning service units except people request for changing regular units.
5) NHSO will allocate budget for service fee to transferred service units under the agreement between regular service unit and transferred service unit by the mechanism of the Local Health Committee

(Source: Community Care Commissioning Cluster, NHSO)

2.4 Plan 4 ensure all sectors participation

5. Partner networks participation

NHSO has worked with civil partner networks composed of 8 fields in the National Health Security Act BE. 2545 1) children and youth, 2) women, 3) elderly, 4) disabled persons or mental health patients, 5) HIV infected persons or patients with other chronic diseases, 6) laborers, 7) populous communities, 8) farmers; and 9) ethnic minorities. Besides that, there are more than 587 other organizations to contribute to development of Universal Coverage System both perception and understanding of benefits, support and facilitate people access to service under UCS and people protection when not received services according to their rights (Mechanism of increase perception of right- access to right-right protection), according to intent of the National Health Security Act B.E. 2545. NHSO (at central and at Health Region) together with representatives from civil network in various fields. Important output performances of partner networks participations are presented below.

1. Increase right perception. All participated networks will play a basic important role in increasing perception of people in their networks or area of work. NHSO will conduct activity to increase perception of people continually by communicating through 1 month 1 knowledge every 15th day of the month. A mainstay of people group, provider group, and LAO join the activity continually.

2. Increase access to rights: NHSO has set the system and mechanism by supporting and encouraging Civil Society Organization contributed to driving UCS by

1.1 Co-providing health services: Civil Society Organizations enrolled to referral service units in specific fields in accordance with session 3 of the National Health Security Act B.E. 2545. In 2022, there were Civil Society Organizations contribute to providing services as follow:

1) Physical rehabilitation service unit: There were 3 referral services units for physical rehabilitation namely Thai Jai Asa Disable Person Service Center, Kantharalak Disable Service Center, Si Sa Ket Independent Living Service Center. NHSO and Council person with disabilities made a public relations for this services. More than 30 person with disabilities organizations were prepared to expand services for the disabilities in various dimensions such as independent living, visual, autistic, psychiatry, and massage for children with disabilities. In total, there were 7 referral service units for physical rehabilitation.
2) HIV/AIDS referral service unit: There were 18 Civil Society Organization Networks enrolled in UCS service units for HIV/AIDS and sexual transmitted disease patients since October 1st, 2022, and more than 30 organizations have been preparing for enrollment in the fiscal year 2023.

2.2 Kidney patients with COVID-19 access to services: NHSO and Kidney patients network by Kidney Friends Association of Thailand help kidney patients with COVID-19 access to treatment and to be the center for delivery Favipiravir for kidney patients with home isolation, in addition, ambulance were prepare for transferring to various service units. More than 500 cases were accessed to treatment. NHSO also Revised service fee for renal replacement therapy for hemodialysis patients with COVID -19 and high risk patients.

2.3 Increase access to UCS service system for undocumented persons. NHSO together with Slum Community network, the Minority Community network, 50(5 Network, village health volunteers, Center for UCS Civil cooperation conducted a survey and identification approval to help undocumented persons access UCS services.

Not only solving individual problem, NHSO also driving policy by pushing the committee of NHSO and MOPH (Committee 7x7) to launch resolution Regional Hospital/General Hospital belongs to MoPH colleting specimens for Central Institute of Forensic Science, the Ministry of Justice to reduce the cost of traveling to central laboratory and service fee that service facilities could not charge from those undocumented persons. Currently, there were 3 hospitals, Chao Phraya Abhaibhubejhe hospital in Chantaburi province, Trad Hospital, and Sunpasitthiprasong Hospital in Ubon Ratchathaini province, participating in this program which collected specimens from 50 cases and over. Hatyai Hospital and Paholpolpayuhasena Hospital in Kanchanaburi Province were 2 hospitals that will participate in this program.

With policy performance and action performance, in the fiscal year 2022, more than 1,900 undocumented persons (persons in central register) could access to Universal Coverage System. 117 persons with unknown citizen status can access proof of status process, 111 cases are in the process of proving identification. 343 cases of persons who could not access UCS services and other public welfare have register status.

2.4 Civil Society Sector support access to health promotion and disease prevention: NHSO Health Region supported Children and Youth Network in locality to develop mutual action process in locality. In the fiscal year 2022, there were 14 projects got budget for providing health promotion and disease prevention at Health Region (P&P Area base)

In addition, NHSO and Children and Youth Network such as Books for Children Foundation, the Equitable Education Fund (EEF) worked together to increase access to eyeglass services.

2.5 NHSO, Women Network and Department of Health, MoPH worked together to increase access to safe abortion and driving benefits for Female to Male Transgender (FtM) (Hormone and follow-up) which continue to work in 2023.

3. Right protection and standard & quality control:

NHSO support to right protection as the followings:

3.1 Set up system/right protection mechanism in central level and locality: At present, there are 1250 right protection organizations which composted of 141 Independent Complaint Service Unit 50(5), 883 NHSO Customer Service Centers in the Health Facilities, 32 NHSO Coordinating Centers in Local Administration Organizations, and 194 NHSO People Centers. These centers support the beneficiaries to get services and made an understanding between providers and patients, reduce conflict in health care system, Right protection for complaint conveniently, preliminary aid to a patient who was damaged from treatment, and work with locality to bring complaint problems for quality standard development.

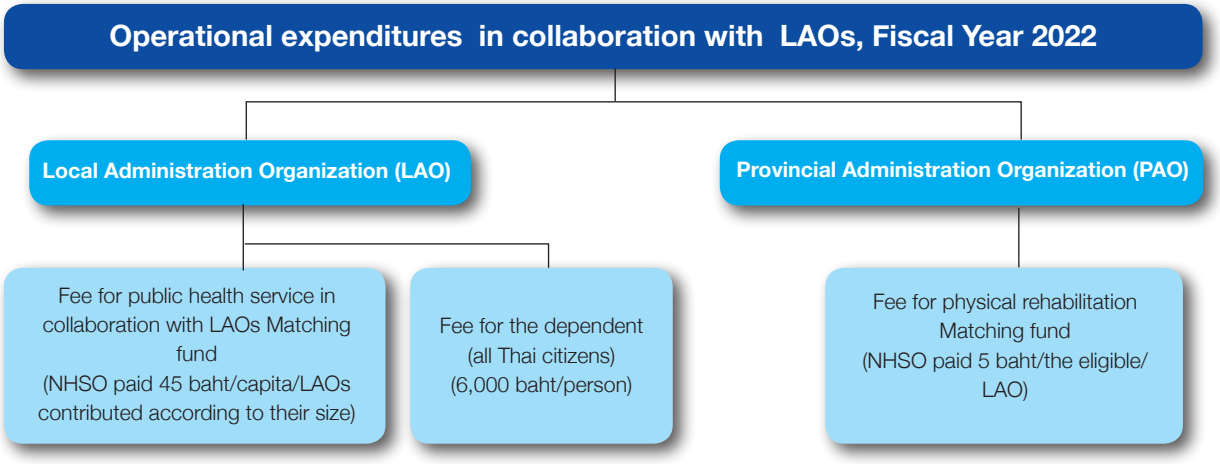
In the fiscal year 2022, NHSO support right protection mechanisms at locality by expanding 17 Independent Complaint Unit (50(5), competency development of 100 coordinating staff in existing 50(5) units and the units preparing to register, working /developing coordinating mechanism with civil sector and other right protection mechanisms in 13 provinces (Provincial Public Health Office, NHSO Service Coordinating Center in health facilities).

Patients' experiences of patient right protection network. NHSO supported many networks such as Cancer patient network, by conducting a survey of access to services experiences. It found the problems of Extra-billing especially for colon cancer. NHSO set up the system for solving the problem of Extra-billing (scrutinized problems in all networks, root cause analysis, and response to the problems by review benefit package, compensation payment, understanding with service units, patient right

protection), In addition the Health Services Standard and Quality Control Board assigned the Sub-committee on Health Services Standard and Quality Control at NHSO Health Region.

6. Participation of Local Administrative Organization

As per the National Health Security Act B.E. 2545 session (18(8) support and coordinate for the implementation and management of health security system at the local level according to their readiness, appropriateness, and need to establish the national security for the population and according to session 47, the board shall support and coordinate with local government organizations to prescribe rule entrusting such organizations to implement and mage the national health security system at the local level with the expense provided by the National Health Security Fund. NHSB has supported budget to LAOs since2006. In FY 2022, there were funds and service expenses of LAO as followings.



Notes: The LAOs those had matched fund with NHSO, could request services for dependents equivalent to the number of eligible registered.

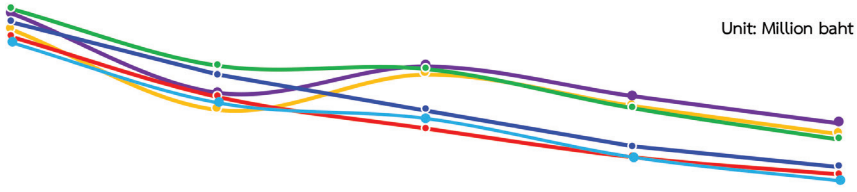
1. Health Security Fund at local level

Starting in 2006, 888 LAOs participated in this program with Matching Fund from NHSO and LAOs. In the past, budget from NHSO came per capita. In 2022, it was separated into the item of service expense with cooperate to LAOs for all Thai citizens which was approved by NHSB at the meeting of 7/2564 date 5 July 2021 to separate the item which defined in session 18(14) and session 47 of the National Health Security Act B.E. 2545, pluses suggestions and opinions from providers and recipients including suggestions from many organizations. To separate budget as mentioned, it helps increase opportunity to LAOs to operate and manage the health security system for many activities.

In 2022, 7,741 out of 7,774 (99.98%) LAOs were ready to cooperate by integrating all mechanism in their areas, such as the Committee on Quality of Life Development at district level or the Committee on Quality of Life Development at region (Bangkok), to drive people's quality of life according to their health problems in the area, and target group which operates as assigned in No. 73 of NHSO' Notification RE: Criteria to support Local Administrative organizations. This was applied in NHSO Health Region 1-12. For Health Region 13, it used NHSO's Notification RE: Criteria to Support Bangkok Metropolis to operate and manage Bangkok Health Security Fund. In addition, balance on hand in any case, must be practiced in accordance with NHSB's regulation for NHSF.

In 2022, budget management totaled 2,978.52 million baht with income equaled to 4,268.65 million baht and expense was equivalent to 4,476.32 baht and balance total 2,770.85 million baht. The expense has been declined since 2018 (Figure 3-1) after revising the NHSB's Notification RE: Notification RE: Criteria to Support Local Administrative organizations to operate the Health Security System at Local Level B.E. 2018, and NHSB's Notification RE: Amendment of the Notification. There has been a declining tendency of cumulative balance since 2019 with NHSO' prescribed measures such as measures to reduce the amount of imports with the amendment RE: measures not to contribute budget to fund with double balance, RE: measure to increase Fund's expenses by assigned clear target health indicators 4 issues compose of reducing diabetes and hypertension, elderly care, child care in Child Development Center. In 2022, with the outbreak of COVID-19, NHSO launched the notification of Fund Budget to solve the problems of COVID-19 approved by Chairman no more than 100,000 baht. There were additional measures such as handbook, example of project, best practice, awarded excellent area, and online media.

Figure 3-1 **Balance on hand of Local Health Security Fund classified by Quarterly-Yearly in the Fiscal Year 2017-2022**



	Budget in Year + Balance	Balance in Q1	Balance in Q2	Balance in Q3	Balance in Q4
2017	7,701.95	5,079.00	6,231.23	5,213.13	4,289.30
2018	8,229.20	5,636.06	6,496.68	5,533.33	4,640.46
2019	8,371.04	6,518.56	6,413.99	5,139.57	4,110.17
2020	7,938.89	6,218.24	5,085.41	3,883.05	3,217.28
2021	7,461.57	5,498.92	4,476.32	3,542.73	2,978.52
2022	7,273.21	5,309.75	4,803.98	3,543.05	2,770.85

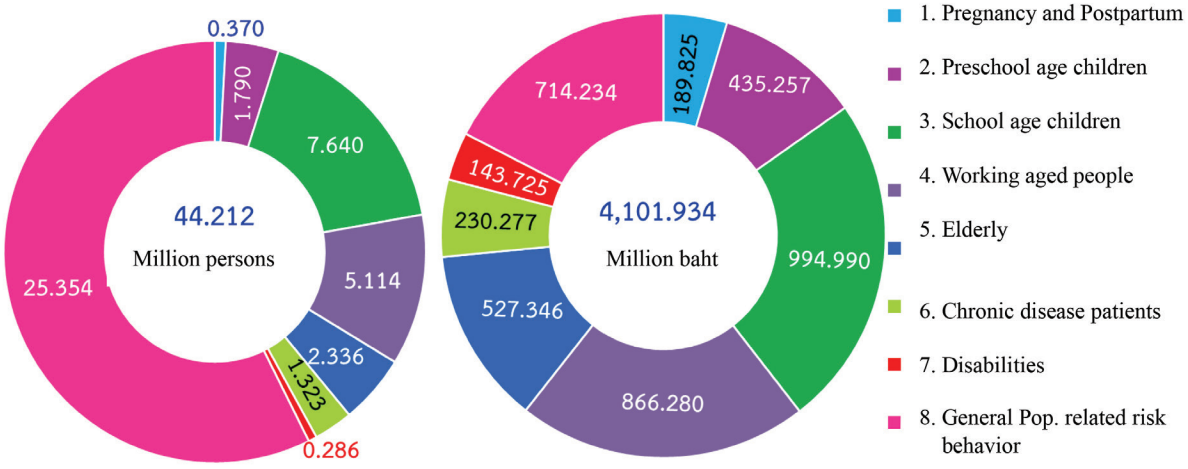
Source: *Community Care Commissioning Cluster, NHSO, Data as of September 30th, 2022*

In the second half of the fiscal yar 2022, the National Health Security Board had revised the Notification RE: Prescribing Criteria to Support Local Administrative Organization to operate and manage Health Security System at Local Level B.E. 2561 No. 4 (Have legal force in the fiscal year 2023) which assigned essence of actions as follows:

1. When allocated budget already, if there is balance on hand and found that Local Administrative Organization was allocated budget not enough for operation and need to request additional budget according to plans, projects, or activities of problems in the area or problems according to the resolution/approval of NHSB and NHSB at Health Region. NHSB may consider allocating additional budget with suggestions or opinions from NHSB at Health Region according to the context of that area.
2. Added more items of payment for projects operate according to resolution of NHSB (Adult diaper, slow down kidney failure, and other items will be added in the future)
3. Adjusted conditions for budget allocation from the previous which allocate budget to the Fund that has double balance to budget in this year.

In 2065, there were 174,643 health promotion and diseases prevention projects covering 44.21 million population. These projects were classified by target groups: 1) Pregnancy/Postpartum, 2) Preschool age children, 3) School age children, 4) Working age people, 5) Elderly, 6) Chronic disease patients, 7) Disabilities, 8) General population related risk behavior (Figure 3-2)

Figure **3-2** **Number of Target groups and Budget implemented health promotion and disease prevention in local sector in the Fiscal Year 2022**



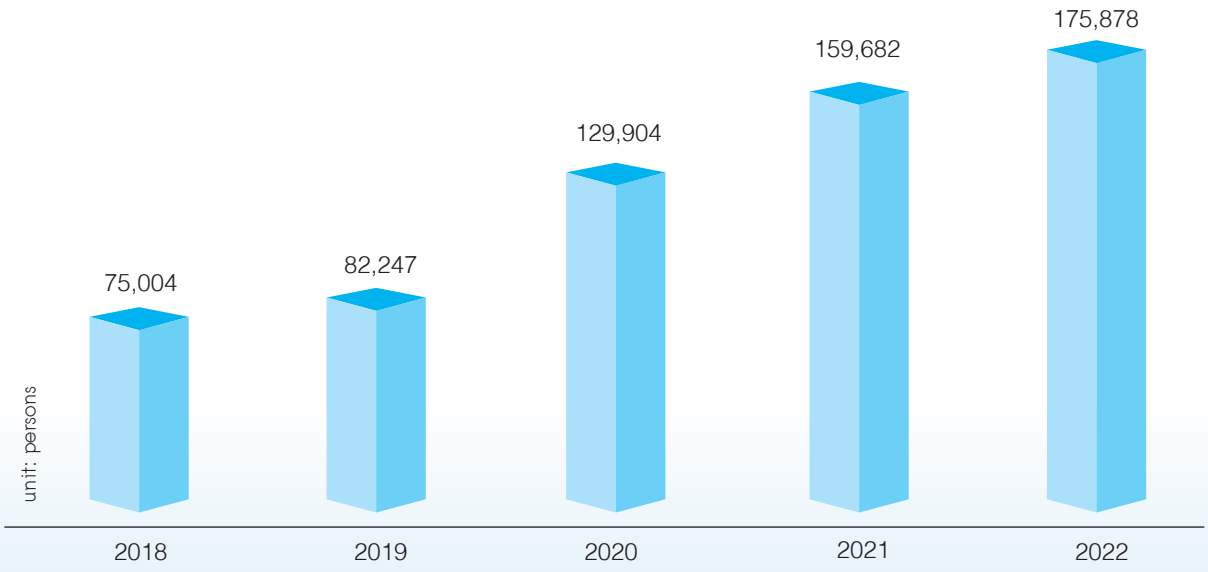
Source: *Community Care Commissioning Cluster, NHSO, Data as of September 30th, 2022*

1. Public health services for dependent persons in community

It is the additional services provided by Local Health Security Fund, starting in 2016. The Fund which was ready could request for additional budget (6,000 baht/case) without subsidy from the Local Administrative Organization. This program was separated independently from the others aiming to care for dependent persons in communities which the previous program providing care only the elderly under UCS with ADL score < 11. In 2020, NHSB revised the NHSO's Notification RE: Criteria for Supporting Local Administrative Organization operate and manage Universal Coverage Scheme at Local level B.E. 2561 (Second edition), expanding right to health covered all dependent persons in all age group and in all schemes. In 2022, there were 7,028 LAOs ready to participate in this program which was accounted for 90.78 percent of the total 7,774 LOAs. 175,878 dependent persons were engaged in Care Plan (target 165,018 persons).

Service fee for dependent persons in 2020 totaled 990.108 million baht. It was the expense for all Thai dependent persons in communities to access healthcare services which connected to social services and contributed by all sectors, and link among home, community, service unit/service facility/ Center for the elderly systematically. In the fiscal year 2022, payment of dependent services followed No. 67: criteria for payment for the dependent in community set forth according to Notification of the National Health Security Board RE: Prescribing the Criteria to Support Local Administrative Organizations Operate and Manage health Security System at Local Area, and Notification of the National Health Security Board RE: Prescribing the Criteria to Support Bangkok Metropolis Operate and Manage Health Security System of Bangkok Metropolis, issued by session 47 of the National Health Security Act B.E. 2545, and other criteria, method and condition assigned by NHSO.

Figure 3-3 **Number of Dependency persons in all schemes with LTC in communities according to individual care plan in the Fiscal Year 2018-2022**



Source: Community Care Commissioning Cluster, NHSO, Data as of September 30th, 2022

In the second half of 2022, NHSB approved supporting adult diaper to dependent patients who had Barthel ADL index < 6 scores according to Car Plan and patient with urinary incontinence/fecal incontinence according to physician's diagnosis. Service units, Center for the elderly's Quality of life Development, and LAOs developed projects using budget from service fee for caring dependents in the community or Local Health Security Fund/Provincial Rehabilitative Fund.

Provincial Rehabilitation Fund

To support and to promote physical rehabilitation system under the Provincial Administrative Organizations, Local Administrative Organizations, health facilities, service units, public health organization, other organizations, the disability group, the elderly group, and other organization for the reasons that the beneficiaries get physical rehabilitation, access to rehabilitative services which importance for health and living, with encourage participatory process according to readiness, appropriateness, and need of people. NHSO had initiated physical rehabilitation in 2019 in the model of Matching Fund which a part of the fund was subsidized by NHSO and the other was contributed by Provincial Administrative Organization. At the beginning, there were 3 co-founders and it increased to 53 Provincial Administrative Organizations in 2022.

NHSO supported medical rehabilitation service fee for the UCS beneficiaries which covered medical rehabilitation service for patients, the disabilities and the elderly who need medical rehabilitation. The rate of payment was no more than 5 baht/eligible for medical rehabilitation services provided by cooperation between NESDB and Local Administrative Organization according to Notification of the National Health Security Office RE: Principle and Criteria for Operation and Management of Provincial Rehabilitative Fund, issued under session 47 of the National Health Security Act. B.E. 2545.

The main output performances and activities were payment for prosthetic devices assigned by NHSO and additional items assigned by the Fund Committee, conducted physical rehabilitative projects appropriately to the target groups, support services provided by network group, encourage to increase volunteers, prosthetic repair center, prosthetic lending center, increase rehabilitative service units, rehabilitation devices manufacturing, modify devices, and support environmental development/basic services to help the beneficiaries live a daily life happily.

Figure **3-4** **Number of (Local Administrative Organization in participated areas in the Fiscal Year 2022**

Health Region 1 Chiangmai (8)
Chiang Mai / Chiang Rai
Nan / Phayao / Lampang / Phrae
Mae Hong Son

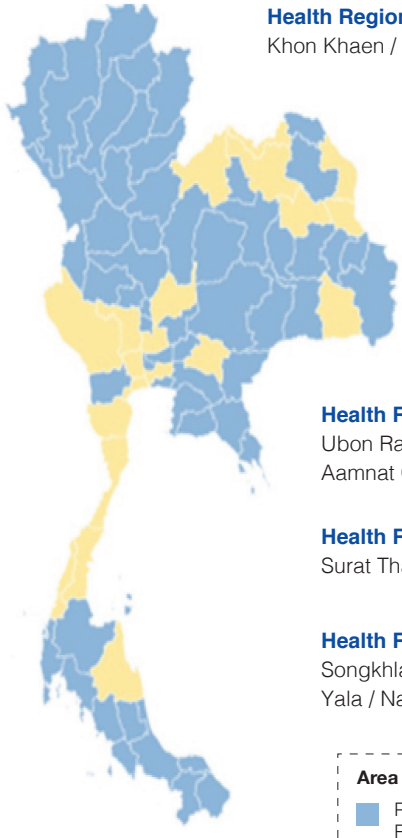
Health Region 2 Phitsanulok (5)
Phitsanulokn / Sukhothain / Tak
Uttaraditn / Phetchabun

Health Region 3 Nakhon Sawan (5)
Nakhon Sawan / Chai Nat / Phichit
Uthai Thani / Kamphaeng Phet

Health Region 4 Saraburi (7)
Saraburi / Phra Nakhon Si Ayutthaya
Sing Buri / Nonthaburi / Pathum Thani
Nakhon Nayok

Health Region 5 Ratchburi (1)
Ratchaburi

Health Region 6 Rayong (8)
Chonburi / Chanthaburi / Trad
Rayong / Samut Prakan / Sa Kaeo
Prachinburi / Chachoengsao



Health Region 7 Khon Khaen (3)
Khon Khaen / Roi Et / Maha Sarakhon

Health Region 8 Udon Thani (3)
Buang Kan / Nong Bua Lamhpu
Sakon Nakorn

Health Region 9
Nakhon Ratchasima(4)
Nakhon Ratchasima
Chaiyaphum / Buriram Surin

Health Region 10 Ubon Ratchathani (3)
Ubon Ratchathani / Yasothon
Aamnat Charoen

Health Region 11 Surat Thani (4)
Surat Thani / Krabi / Phang Nga / Phuket

Health Region 12 Songkhla (7)
Songkhla / Phatthalung / Satun Pattani
Yala / Narathiwat / Trang

Area of Provincial Rehabilitative Fund
Provinces participated in Provincial Rehabilitative Fund
Provinces have not engaged in Provincial Rehabilitative Fund

Source: Community Care Commissioning Cluster, NHSO, Data as of September 30th, 2022

Monitoring and Evaluation

NHSO had set the policy to monitor budget of the Local Health Security Fund, focusing on 4 issues: chronic diseases, child development, elderly/ vulnerable, and health problems of that area. NHSO Health Region has been assigned to implement. NHSO Health Region monitors the Fund by setting up mentor team, develop program for the Fund working On time On line.

In order to stimulate the monitoring process works effectively and continuously, 2 mechanisms have been set up as the following.

1. The Subcommittee on Inspection (report the results to NHSB): assigned the issues for internal audit with objectives to ensure that budget is allocated according to related announcement, criteria, and regulations for confirming that the operation achieves the objective/goals/indicators effectively, efficiently, properly with regulations, rules, handbook, or guidelines. The internal audit system can be reviewed to confirm that the operation activities achieve the objective, goals, and get problems, obstacle, effect from operation and finally set up the recommendation for revising, adjusting, and improving the operation.

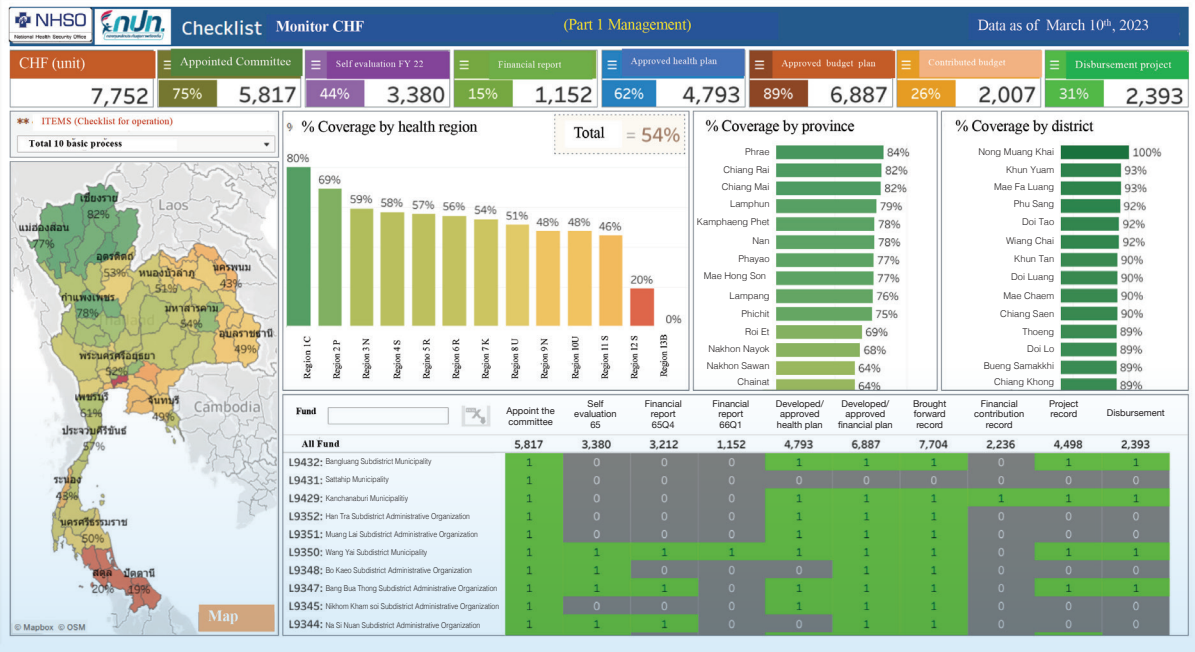
2. The Subcommittee on Encouraging Participation (report to NHSB): This subcommittee set up the Task force for Efficiency Development of Local Health Security Fund with participation process of people and all stakeholders. Its duties include encouragement and development of participation process of people in various dimensions such as structure, providing services, quality development, monitor and support,

suggestion and recommendation for FUND development.

3. NHSO Health Region: At the 7/2022 meeting on July 4t, 2022, The National Health Security Board assigned NHSO Health Region monitor Local Health Security Fund closely. On July 11th, 2022, NHSO approved the Guidelines for monitoring disbursement of Local Health Security Fund. The activities of NHSO Health Region for monitoring the Local Health Security Fund comprised the analysis of on hand balance of the Fund more than on hand balance of Bank for Agriculture and Agricultural Cooperatives and visited the area with relevant local organizations and others to scrutinize the real situation. Set up corruption surveillance and control, staff's capacity development for community services, government significant regulations and announcements applied on job, basic account verification, including capacity development for monitoring and evaluation the Fund's activities. In addition, the administrative at NHSO Health Region must communicate with staff about the importance of monitoring the risks that may exist to office or staff who do not work compliance to government regulations, announcement and guidelines, preparing concrete evidence of monitoring report to NHSO Health Region and NHSO, publish performance of the Fund to relevant organizations such as Provincial Office for Local Administration, Provincial Public Health Office, District Health Board and Local Governmental Organization and may request some organization support and help monitoring.

4. Information Technology for monitoring and evaluation NHSO collected performance data of Local Health Security Funds and analyzed, synthesized, and developed information technology by Interactive Dashboard which monitor performance at country level, health region level, provincial level, district level and sub-district level, including each project received budget. This information technology system are used by NHSO and distribute to organization outside NHSO for planning, monitoring, and budget spending.

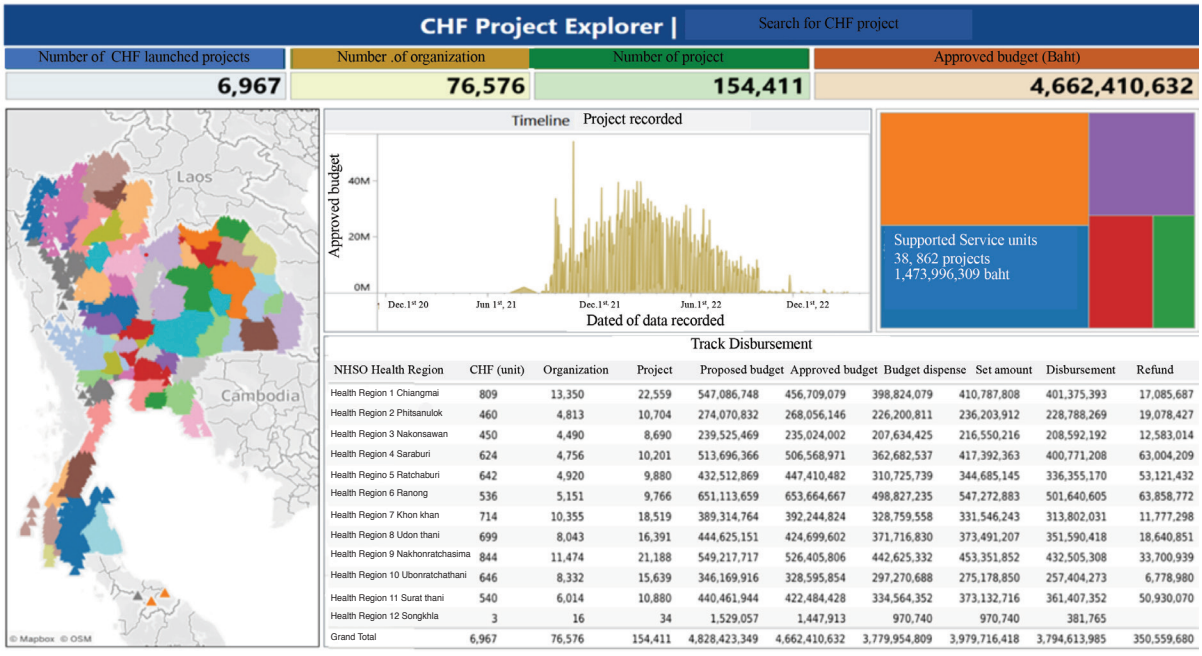
Figure 3-5 **Local Health Security Fund Integration Dashboard for Management Information System supported the Healthcare units level**



Source: *Local Health Security Fund Integration Dashboard, Intelligent Data Innovation Department, NHSO, Analyzed on 10 March 2023*

Figure

3-6 **Local Health Security Fund Integration Dashboard for Management Information System supported the Healthcare units level**



NHSO Health Region	CHF (unit)	Organization	Project	Proposed budget	Approved budget	Budget dispense	Set amount	Disbursement	Refund
Health Region 1 Chiangmai	809	13,350	22,559	547,086,748	456,709,079	398,824,079	410,787,808	401,375,393	17,085,687
Health Region 2 Phitsanulok	460	4,813	10,704	274,070,832	268,056,146	226,200,811	236,203,912	228,788,269	19,078,427
Health Region 3 Nakonsawan	450	4,490	8,690	239,525,469	235,024,002	207,634,425	216,550,216	208,592,192	12,583,014
Health Region 4 Saraburi	624	4,756	10,201	513,696,366	506,568,971	362,682,537	417,392,363	400,771,208	63,004,209
Health Regino 5 Ratchaburi	642	4,920	9,880	432,512,869	447,410,482	310,725,739	344,685,145	336,355,170	53,121,432
Health Region 6 Ranong	536	5,151	9,766	651,113,659	653,664,667	498,827,235	547,272,883	501,640,605	63,858,772
Health Region 7 Khon khan	714	10,355	18,519	389,314,764	392,244,824	328,759,558	331,546,243	313,802,031	11,777,298
Health Region 8 Udon thani	699	8,043	16,391	444,625,151	424,699,602	371,716,830	373,491,207	351,590,418	18,640,851
Health Region 9 Nakhonratchasima	844	11,474	21,188	549,217,717	526,405,806	442,625,332	453,351,852	432,505,308	33,700,939
Health Region 10 Ubonratchathani	646	8,332	15,639	346,169,916	328,595,854	297,270,688	275,178,850	257,404,273	6,778,980
Health Region 11 Surat thani	540	6,014	10,880	440,461,944	422,484,428	334,564,352	373,132,716	361,407,352	50,930,070
Health Region 12 Songkhla	3	16	34	1,529,057	1,447,913	970,740	970,740	381,765	
Grand Total	6,967	76,576	154,411	4,828,423,349	4,662,410,632	3,779,954,809	3,979,716,418	3,794,613,985	350,559,680

Source: *Local Health Security Fund Integration Dashboard, Intelligent Data Innovation Department, NHSO, Analyzed on 10 March 2023*

Evaluation research by External Agencies

The NHSO with academic institutions had proceeded with an evaluation of LAOs' fund usage through 3 projects with support from the subcommittee:

1. Evaluation and Elevating of LAOs operation; "funds" under the supervision of Local Health Security Fund by Thammasat University.
2. Local Health Security Fund Performance Evaluation of pilot projects at Child Development Centers and Prevention and Control of DM/Hypertension by LAOs conducted by Mahidol University
3. Provincial Rehabilitation Fund Performance Evaluation project by Khon Kaen University

The evaluation consistent in all 3 projects were that the local or provincial healthcare fund were the main drivers for dependent individuals in communities while the provincial rehabilitation fund was the main tool to provide health coverage for local individuals while the LAOs was the main party that had coordinated and operated, created understanding of the direction, a step-by-step guideline and various regulations. This was a necessity to prevent concerns from the State Audit Office of the Kingdom of Thailand. The proposition is to create a database for relevant partners for operation of more community projects, specifically in urban areas. This is to help the civic sector better manage project, learn from them including innovate through exchanges on stages where citizens can showcase their skills. This evaluation results were presented to the subcommittee (under the supervision of the main committee) on 17th December, 2022, to further implement the betterment and development of district-level funds.

Best Practice examples, to broadcast successful projects such as the sustainable prevention and delay of chronic kidney diseases, delivery of dialysis fluid to home despite floods through the NHSF. While the Best Practice for Outstanding Fund in regard to disease prevention at A+ level and evaluated to have a high potential was NHSF Phuket municipality, Phuket district, Phuket and NHSF Na Cha-ang municipality, Muang district, Chumporn while Best Practice fund in regards to Long term Care was at NHSF Tha Khan Tho municipality, Tha Khan Tho district, Kalasin.

Communication Efficiency, Local National Health Security Fund had focused on creating content on the local NHSO through new media such as the fund's page; the Local NHSO would broadcast media at least 2-3 per week covering issues on Long Term Care, updating on local funds. There were 62 interview clips (Best Practice), 27 infographics, 1 mini-movie broadcasted over 10 times through FB Live, through brochures and manuals providing information on the operational process of the fund and broadcasts through NHSO's Facebook page at https://www.facebook.com/CCC.NHSO

2.5 Action Plan 5: Building Confidence in Good Governance

7. Investigation of submitted false claims from the health care units.

In cases of healthcare units submitting false claims, the NHSO had discovered incompatibilities in 2020 leading to the establishment of a subcommittee, on 20th July, 2020, to investigate the falsification of healthcare claims with Mr. Jirawut Sukdaipueng, a committee member of NHSO and a legal expert, presiding including experts from external entities chairing the committee; the members had inspected operations and management of disbursements including quality of services of Ob-Un community clinic, which had falsified their claims of healthcare expenditure. The members had investigated the behaviors of offenders and stakeholders in all perspective consisting of civil, criminal, administrative including damages incurred. The subcommittee had conducted their investigations in phases and upon discovering incompatibilities, the subcommittee had notified the committee and the complaint office, which had penalized the investigating officer by suspending payment, requested a refund, notified relevant professional councils including cancellation of contracts.

After a year of investigating millions of disbursement documents regarding screening of metabolic disorders, the subcommittee had reported and summarized resolutions to the National Health Security Board on 5th July, 2021. The NHSO had additionally provided resolution and preventative guidelines for such disbursement issue of which the board had approved and further had forwarded witness and evidence to the National Anti-Corruption Center including adjusting operations and disbursements to prevent a recurrence in the future. The board had also had approved the restructuring of Bangkok's National Health Security subcommittee by terminating the current entire Bangkok NHSO's subcommittee including its working members since some of the members were owners of these service centers.

The NHSO had implemented these committee-approved measures: **Measures to prevent a recurrence** from private sectors includes establishing a capacity register of service units and personnel, improve authentication system for beneficiaries, providers, and utilization of AI system for compensation check , the NHSO's investigation system consist of:

1. Pre-audit through the authentication, AI and verification system to investigate for abnormal disbursement information, adopt technology to analyze reimbursement data for services and reduce the chances of fraud by linking data sources that are relevant to health service

reimbursement data, analyze unusual and suspicious datasets with artificial intelligence technology including models have been developed to assess the risks of service units and abnormal compensation data using the pre-audit automation system.

2. Investigation by an external audit in cases of large volume of abnormalities
3. Pre-authorization before servicing by medical specialists
4. Quality of care audit with association of public health professions
5. Post-audit by an auditor

Inspection of Ob-Un clinics before registering as a contracted unit including revising the disbursements criteria, or Quality and Outcome Framework (QOF) including inspecting medical services statements that are disbursed in the form of investment budgets on the issue of payment diversity plus adjusting all payment claims to a single claim system.

Registering new Ob-Un clinics was proceeded with the condition of consisting of no prohibited characteristic as per the authorization of the legal subcommittee of the NHSO. Hence, upon a Health service unit requesting for registration with NHSO Health Regin 13, there will be an investigation of all documents to assess the unit's standards and upon finding any prohibited characteristics, the office will reject the unit as a health service unit. As for the revision of disbursement criteria as per the QOF through integrating financial limits and emphasizing payments according to service criteria for DM/Hypertension; as for the Health Promotion and Diseases prevention, there was a revision of Fee Schedule by specifying a single set of service payments for all districts and identity verification for payment investigation.

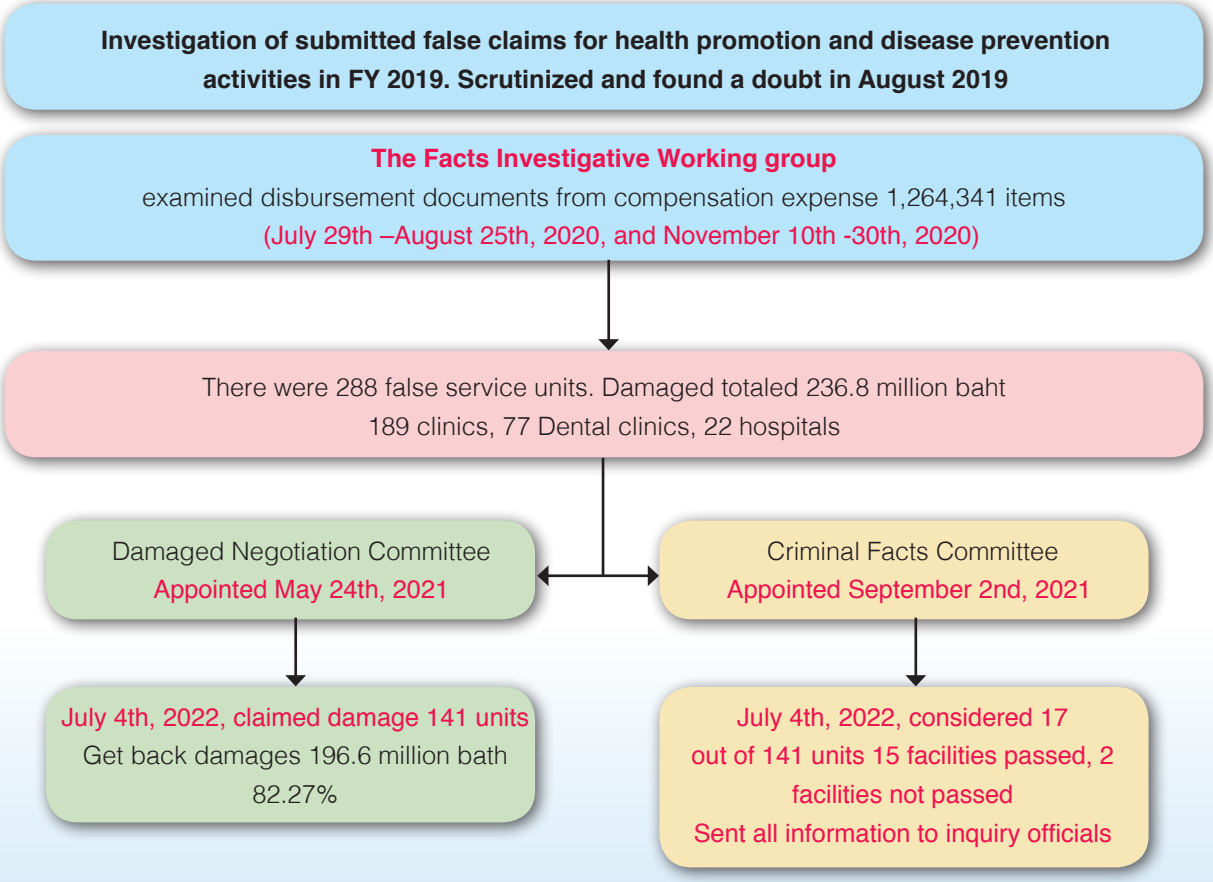
Develop and adjust laws, regulations, rules, relevant announcements specifically, in cases where there is a stakeholder as a board or a subcommittee member, the NHSO had made the following approvals on January 6th, 2023: 1. (draft) Regulations on the Standards of Public Healthcare Service by Service units and their networks A.D (no year specified) 2. (draft) Announcement of criteria for providing public health services to recipients and establishing public healthcare service database A.D. (no year specified), 3. (draft) Procedures for document review of health billing evidence and actions in cases of inaccuracies in health billing A.D. (no year specified), 4. (draft) Rules and Regulations on Administrative Fines and Revocation of Service Unit Registration A.D. (no year specified). Additionally, relevant subcommittees were assigned to 1. Specify public health information as the standard of public health service, 2. Establish procedures for collecting expenses and actions in cases of inaccuracies, and 3. Specify rules on administrative sanctions and revocation of registration.

The review of the draft announcement on the appointment of the Local NHSO subcommittee as per the motion of the NHSO committee on 5th July, 2021, to terminate the Bangkok Regional Health Security subcommittee including all of its working committee and had appointed a neutral personnel to manage the finances, operate, monitor and assess including redo the infrastructure and composites of the Bangkok Regional Health Security subcommittee to become a more condensed and cooperative committee with a system to manage potential conflict of interests. On 7th February, 2022, the NHSO committee had approved of the announced NHSO committee, approved of the Regional Health Security subcommittee A. D (no specified year), and a to-appoint-committee-president with signing authority, regarding which the NHSO was assigned to coordinate with relevant agencies or personnel or organization to discover such person as president of the subcommittee or subcommittee members; these members will immediately assume their positions upon announcements.

Measures taken against offenders for inflicting damages to the NHSO including negotiations on damages incurred and criminal proceedings taken against the Bangkok Health Units as per the motion of the NHSO Committee on 6th June, 2022, after

having been appraised of and approved of the findings of the compensation negotiation committee and criminal fact review committee; additionally, the committee had agreed to retract the proceedings against 14 service units, which had passed the screenings conducted by the criminal fact review committee to having no intent to corrupt. As for those units that had the intention to corrupt, even after having compensated, will still face legal proceedings to ensure fairness to all parties involved. Nevertheless, the criminal review fact committee had conducted their investigation based on evidence and provided clarifications to each service unit.

The NHSO committee was appraised of the proceedings between the compensation negotiation committee and services units including the criminal fact review committee. In the meeting on 4th July, 2022, 288 health service units had submitted fraudulent compensation of which 211 medical clinics (189 Ob-Un clinic, 22 hospitals) and 77 dental clinics. All were claimed for damages including fraudulent compensation, investigative expenditures incurred totaling to 236.76 million baht of which 141 service units had paid a total of 195.52 million baht, or 82.27 percent. The NHSO had assigned the offices to distribute statements of all service units involved in the criminal acts to investigators, who had received the allegations/ accusations, to proceed as per their authorities. The NHSO had approved the revocation of the resolution of NHSO committee, 6/2022, on June 6th, 2022, for the 14 service units that were originally imposed with criminal proceedings but were decided to have no intent to corrupt. Since the NHSO committee has no duty to adjudicate legal cases, the process will be in accordance with the legal process; the NHSO had held a press conference on the progress after a meeting with the committee.



Ethical considerations regarding medical practice standards of medical practitioners as operators of 18 hospitals, who had submitted fraudulent compensation accounts and may be considered as non-compliance to the Medical Profession Act B.E 2525 (A.D. 1982) and additional revisions. The NHSO had submitted the allegations for deliberations to the Medical Council of Thailand, which had informed the resolution of the investigation as per the document พส.011/(จ.5)/2804 on 19th April, 2022; the summarization of which proceeds as follows: the recordings consist of details and procedures performed by unit's staff, which were not as yet a medical examination nor diagnosis; hence, these actions are not considered as conducting any form of medical service. In addition, no empirical evidence has been found to indicate that the operator had participated or has the duty to carry out the recording process or were there any indication as to the whether the operator had given consent or monetary compensation in any manner to induce patients to receive service in his or her unit or behave in any manner that engages him or her in illegal professional practices in a medical facility. Therefore, this is not considered as a violation of the Medical Council's ethical regulation on medical professions and the council saw that the petition should be resolved without grounds.

As for the results of the NHSO's operators' investigative findings by the fact-finding committee as per the complaints made regarding the NHSO operators, there has been collection of witness, documents and evidence were submitted to the secretary of the NHSO and relevant committee. It has been learnt that the working committee, the subcommittee and NHSO committee were not arbitrary and no NHSO were involved in disbursing money or introducing disbursements that could be considered fraudulent in any way.

In regards to the case where 2 committee members and 1 NHSO subcommittee member were involved with the fraudulent service unit, hence, committing a transgression. The committee had considered and prepared a proposal for action in case where a statutory committee or subcommittee members has a conflict of interest with a service falsely collecting expenses for health services as per the submission to the NHSO committee on 6th September, 2021. While on 9th December 2021, the Minister of Public Health had presented the case to the cabinet to proceed as per Section 16 (6) National Health Security Act 2022 for the member to vacate office. Whilst conferring with the cabinet, one member of the committee had voluntarily resigned from the office and this case need not be presented to the cabinet. However, even with resignation, the officer will still face criminal proceedings and as for the position of the subcommittee, it is within the authority of the committee to appoint another officer instead.

The NHSO had submitted the report with evidence to the National Anti-Corruption Operation Center (NACPC) had proceeded with investigating these individuals, and reaching a conclusion had sent the motion to the Office of the National Anti-Corruption Commission (NACC), which had accepted to pursue the case within its authority including reporting the truth regarding the misconduct of the NHSO committee to the NACC committee, the parliament and president of the committee (Pol. Gen. Sereepisut Temeeyaves). Additionally, the NHSO committee had assigned the NHSO to review the rules and regulations on the conflict of interest between the office and the common interests of the committee, directors and employees as per the NHSO laws.

Resolution for beneficiaries regarding termination of contract with private clinics in Bangkok as the beneficiaries would need to look for a new service unit. For the 2020 year, there were 3 rounds of contracts termination for a total of 192 service units affecting 2 million beneficiaries requiring a new service unit. The first round was from July 1st-9th, 2020, where 18 Ob-Un clinics' contracts were revoked and 3 dental clinics' too while the 2nd round was on 18th September, 2020, where 54 Ob-Un clinics' contract were terminated and 3 dental clinics' and the third round was on 30th September, 2020,

where 107 Ob-Un clinic' contracts were terminated including 1 private hospital's. As for the approximately 700,000-800,000 beneficiaries receiving continuous and necessary medications were divided into 3 groups: . Patients requiring in-hospital stay for surgeries, deliveries, dialysis were informed of their new service units by the NHSO, 2. Chronically-ill patients suffering from diabetes mellitus, hypertension including HIV -positive patients were to continuously receive medication and care from the 69 healthcare units in Bangkok as coordinated by the NHSO, and 3. General patients were considered as vacant beneficiaries as each of the individual can receive care from any public or private Gold Card registered healthcare unit, which will be reimbursed by the NHSO as per the NHSO guideline; Simultaneously, the NHSO had fast-tracked registration of new service units for citizens to choose.

In 2022, there were contract cancellations with 9 private hospitals in Bangkok which were primary healthcare units, regional units and referral units for Gold Card beneficiaries due to illegal compensation withdrawal practices. The NHSO subcommittee's motion, 3/2565 (2022), on 22nd August, 2022had prepared to accommodate the 700,000 citizens affected form the contract cancellations of the 9 private hospitals in Bangkok rendering these 210,789 beneficiaries lacking primary healthcare units, regional centers, and referral units, 25,940 lacking regional units and referral units and 450,214 lacking referral units while 9 percent of citizens utilizes these services of whom 24,058 individuals suffer from chronic diseases. The Bangkok's NHSO subcommittee had approved the guidelines as follows:

1. Primary Healthcare Units: (1) beneficiaries had requested for appropriately distributing and assigning them to new Primary Healthcare units while the newly registered units will not be receiving any beneficiaries unless and until the beneficiary requests to be registered to the system, (2) adopt new service structure/ specializing service for chronic diseases (telemedicine, mobile units, pharmacies etc.), 3. Compensation as per Model 5.
2. Regional service units: the beneficiaries were coordinated to receive services from Model 5 regional public health service units; the NHSO will assign various Primary Healthcare Units to accommodate.
3. Referral Service Units: (1) Patients are not constrained to a hospital and can elicit services anywhere (IP Anywhere) as have been coordinated with all public and private NHSO affiliated hospitals, (2) NSHO had found additional referral units, (3) Coordinated with all NHSO affiliated hospitals to develop the E-Refer and Bed management systems.

As of 10th October, 2022, where 9 private hospitals in Bangkok whose contracts were terminated, th NHSO had implemented various measures for affected beneficiaries by organizing Primary healthcare units such as public health units, medical clinic, Ob-Un clinics, nursing and midwifery clinics including pharmacies in coordination with Bangkok, the Department of Medical Services and affiliated hospitals to care for patients with appointments and patients suffering from chronic diseases. The office had also revamp the Primary Healthcare services to telemedicine as another channel for patients to receive treatment.

NHSO had prepared sufficient Primary Healthcare centers with 1,093 registered center consists of public primary healthcare centers, Ob-Un community clinics, medical clinics, pharmacies and other units for all beneficiaries to have efficiency in opting for their preferred channel for treatment; all primary care units will have primary referral units in cases of severe illness or complications. As for healthy citizens wanting to register with a unit, it is recommended to opt for ones that are near home but if any individual is dissatisfied with the services and wishes to change their unit, the NHSO allows for change of service units at 4 times per year. The service was initially implemented for 230,000 Bangkok UC beneficiaries, all of whom were bystanders of the contract termination, from October 10th, 2022, onwards. UC beneficiaries can choose their service units through

3 channels consisting of 1. NHSO Application, choose registration menu opting for change of service unit, 2. Through NHSO Line at Line ID: @nhso choosing the Choose Service Unit by self, and 3. NHSO 1330 Contact Center. However, should any citizen prefer another method, the citizen can visit the NHSO, 2nd floor, B Building, The Government Complex, Chaengwattana Road.

As for those using the services of the 9 hospitals with cancelled contacts, the NHSO had referred the patients to other hospitals including coordinated with the new service units to continue treatments specifically for those having chronic diseases with appointments, those waiting for surgeries, those waiting for radiotherapy, chemotherapy, and antepartum women. As these groups of patients are considered as emergency patients, the NHSO had requested for the patients' history and treatment plan to be transferred to the new service units.

The development of Bangkok service units as the main network rather than being independent units is to develop the capability of service units in Bangkok and to increase flexibility in providing comprehensive services. Bangkok service units (host) becoming the service units network will increase efficiency to accommodate all of Bangkok citizens with Ob-Un clinics (nodes) as primary health centers where citizens can receive primary healthcare at any units of the same network and transfer of citizens from public and private hospitals to their regional service units. Having a network where the regional unit is considered as the main unit providing primary health and medical specialty services is vital since the regional service units will act as the Area manager while referrals will proceed as per the Zoning by Medical Service Department, Bangkok, with hospitals in that zone acting as the System Manager. The NHSO Health Region 13 will find additional referral hospitals, or service units, as per Section 7's eligibility to receive care. The Contact Center in NHSO will coordinate with each zone's hospital to refer and coordinate for beds. With this system in use, the regional service units will become the Area Manager supervising its network of Ob-Un clinics and other specialty clinics and in cases where the treatment required is beyond the clinic's potential, the patient can be referred to other hospital within the zone, which is made up of referral units and medical units in accordance with IP Anywhere.

Information Management System and Digital Health System

The NHSO Government Action Plan, Phase 5 (2023-2027), has been implemented under the era of technological development and New Normal lifestyle to reflect the present and future needs of citizens from health service units. The implemented policies, thus, have been mechanized to build a system that can integrate all health service data into one system for all relevant agencies to be able to make use of the information (database on Cloud). The NHSO will drive its organization into a digital organization by merging technology to achieve efficiency, support the adjustment of the internal working system to become a digital system for convenient and fair access to services including utilizing such centralized health service data for reimbursements of health service units under the standard data set for claim. The NHSO encourages a system where citizens are accountable for their own digital health information and manually manage service data. The system will also receive data from other sources to develop the NHSO platform in order to develop future policies and protect the rights of access for beneficiaries. The plans also include development of other application/ program with plug in/link to achieve a fully-functioning for health insurance management including to develop efficiency, monitoring, evaluation and draft policy suggestions with other expert agencies to build Big data.

The NHSO has plans to develop its digital health information system in order to have efficiency in compensation to health units and auditing those compensations from data linked through various systems such as the API to decrease the workload of agencies or decrease the administrative workload of NHSO allowing the office to have access to Big Data and then returning the data to the source. Actions have been implemented to support the

adaptation of working style to digitally manage data and information as per the Government Action Plan for the National Health Security Office on Digital Development, 2nd Edition, Phase 5 (2023-2027) in conjunction with the strategies of the NHSO focusing on building a Rolling Plan, where data from all relevant units are flexibly linked including the formation of a digital architecture. Hence, in emergency cases or significant changes in circumstances, there are guidelines to steer responses appropriate for the current situation whilst keeping the future in focus (Figures 1 and 2).

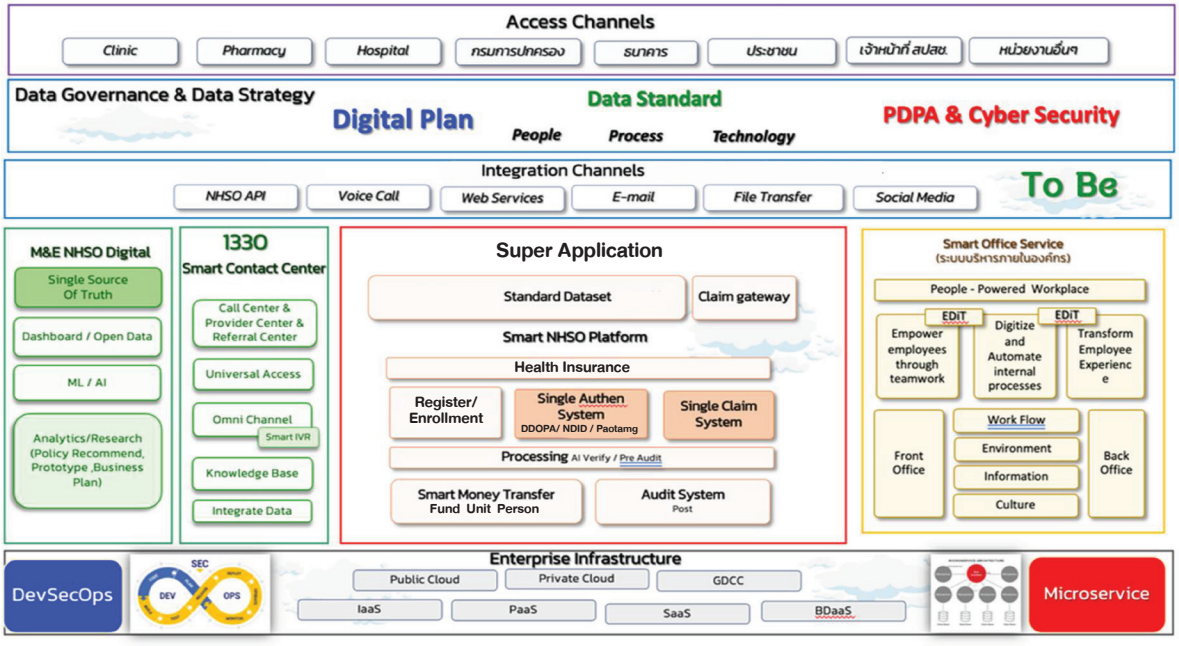


Figure 1 Data Connecting system inside and outside NHSO

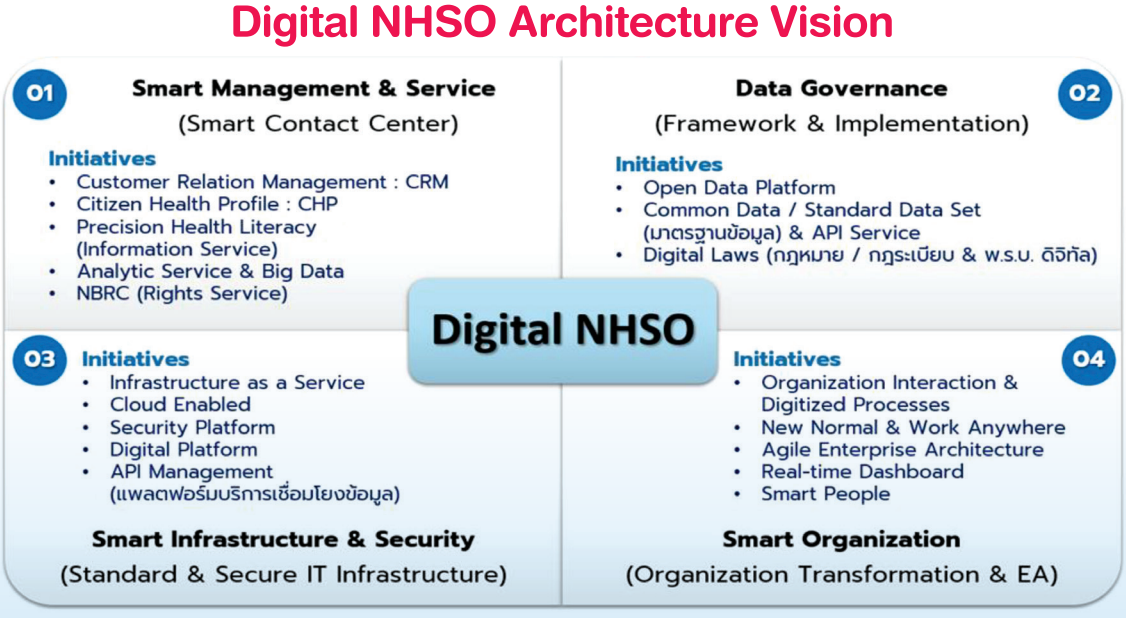


Figure 2 Digital NHSO Architecture Vision

The Government Action Plan for Digital Development, 2nd Edition, Phase 5 (2023-2027) consists of 5 plans:

1. Develop data linking standards on accessibility rights for citizens and support individualized health knowledge provided on all digital platforms including promoting the exchange of personal health information and enjoying new services in conjunction with the New Normal lifestyle

2. Speed up the medical services compensation based on the standard linked-data systems that can be used by various networks and agencies in the Digital Claims Ecosystem for exchange of information.

3. Build and create a culture of Data-Driven and Intelligence including Monitoring and Evaluation

4. Drive the organization to become an organization with Digitized and Automated Smart Process to accommodate a culture of Virtual Office (Work Anywhere) including development of human resources to an era of Smart People (an era of better economy and digital society).

5. Develop a digitally-based organization with flexibility on a concrete system that us connected, safe and has digital governance

The key performance indicators are citizens can check for and can be informed of their rights in Real-Time on all platforms, the NHSO can investigate and compensate medical service units within 5 business days, NHSO officers can Work Anywhere.

The progress of implementing technological advances in 2022 are as follows:

1. Authentication system to elicit services: this has been implemented to prevent repeated-usage of right and corruption. There has been development of new technologies through 6 development models of which citizens can self-operate starting with 1. Line @nhso with QR code, 2. NHSO Application download using QR code, 3. Kiosk & Station that have integrated information from many sources through API under the supervision of officers, 4. New Authentication (Smart Card Dip Chip or Photo + API), 5. Web Application with Smart Card (ERM) (Smart Card Dip Chip or Officer Approved), 6. Web AMED + Line of service unit + Application 3rd Party such as Good Doctor, Mordee, Clicknic and etc.

2. Compensation and Quality of service Auditing according to the period of audit and in 3 models: **1. Pre-Authorization** – an inspection conducted as to the requirements prior to being provided services by a specialist doctor, **2. Pre-audit** – data investigation before compensating for medical services that is connected to the E-Claim system regarding which the NHSO has laid a 5-tiered auditing process as follows: a. Authentication process to verify that a beneficiary did indeed utilize the services, b. 1st Adjudication Validate to inspect for validation of infrastructure and basic data relationships, c. 2nd Adjudication, d. Utilization of AI and Verification System to inspect for inaccurate compensation such as a service unit being over-compensated or units with high costs, and e. Auditor to inspect in cases where there has been abnormalities after Step d., and **3. Post-Audit**- is a post-payment auditing system to inspect for any medical services' payment abnormalities or to be conducted as per the policies of the committee/ subcommittee/ office on 4 main issues: 1. Billing Audit, 2. Coding Audit, 3. Quality Audit, and 4. Investigation of 3 funds comprising of high-expenditure diseases fund, IPD treatment expenses funds based on capitation payment, and hemodialysis fund.

As per the investigative criteria of the Public Sector Audit Evaluation Committee (PAEC) of the MoPH and the 4th PAEC subcommittee, on an ad hoc basis, had arrived to the same conclusion that the NHSO has a modern information system that can be utilized to better serve citizens. On 22nd March, 2022, the cabinet had assigned the NHSO to use AI and Machine Learning to audit the medical service payment system and to implement the technology to prevent corruption, and to analyze the risk of reimbursements. This is to discover inaccuracies in the payment system using AI to audit health service units and link data from many sources. The NHSO

had developed a Fraud Detection and Fraud Analytics for health services units providing health promotion and disease prevention services for cases such as screening for metabolic disorders risks in Bangkok, payment based on services rendered such as antenatal care, cervical cancer screening, preventative dental measures including developing a preliminary inspection system for suspicious items. The system continues with the pre-audit automation system for the treatment for coronary heart diseases using a catheter, reimbursements for services of coronary artery examination, reimbursements for cancer treatment services that can be elicited in any units capable of providing treatment, reimbursements for OP and promotion of disease prevention, reimbursements for instrument and prosthetic organs for the treatment of diseases related to the heart and orthopedics, reimbursements for COVID-19 treatment. The AI development plan for 2022 will focus on reimbursement system, renal replacement therapy, universal coverage for emergency patients (UCEP), PP Fee Schedule based on services rendered, reimbursements for instruments and prosthetics including equipment for the disabled, OP referring, reimbursement through Vendor Managed Inventory (VMI), rehabilitation services.

3. Data and Processing System for service units (e-Claim) is the main administrative program used for transacting reimbursements for medical services rendered nationwide by the hospitals/ service units. Since 2008, there has been developments made to meet the needs of users and administrative needs that are constantly changing and in 2022, the new e-Claim has been launched with additional payment service for COVID-19 treatment through adding on the VA>> COVID, PP, OP Anywhere based on capitation payment process, improvements made to the reference table system of 43 files. As per the ministry, improvements have also been made to the evaluation of Thai traditional medicine system and preliminary audit report on the webpage itself for the service units to monitor information and to receive payment through the Seamless for DMIS system. There has also been making of a Standard dataset for e-Claim as the declaration in the Royal Gazette published on February23rd, 2022, and was circulated for agencies to be informed regarding the updates on the payment claims process to be in accordance with the National Health Security Act.

4. Rights and Services through 1330 Contact Center as the system to distribute information of the NHSO regarding the insurance systems, accept complaints, petitions and provides a 24 hour service, nationwide. In 2022, there has been a modification of the hotline to become a Contact Center with an Omni-Channel to accommodate distributing to information to citizens through a variety of channels such as websites or social networks or Facebook, Line, QR Code, Web-based, Traffy Fondue, telephone. The Call Center has focused more of its efforts on social media. The call center has also been in contact with citizens to further NHSO responsibilities such as audit (HI, CI, OPSI, ATK, UCEP COVID), monitor ATK results, introduce the flu vaccines, monitor COVID patients, prescription of medication, introduce cervical cancer screenings, satisfaction survey on solving complaints, UCEP/HD Self Pay policy survey. The NHSO had cooperated with the Government Big Data Institute (GBDi) to develop CRM database through the Dashboard for the executives to have a Real-Time view on the current trends, complaints and coordination to lead to the development and monitoring of a complaint lodging system, which will then be referred to the Contact Center for citizens to receive immediate services. This will allow service units to have information for further development and for citizens to be informed before choosing a service unit.

5. Information System for officers (Smart Office Service) for an efficient system within the organization with the goals of creating a linked system, reduce paper waste, approach a cashless society, and a concise working process that is regulated for officers to work anywhere, anytime; all digital tools are continuously developed starting with

5.1 Executive Information System (EIS)/ Management Information System (MIS): in 2022, the NHSO had restructured by establishing a supervisory, monitoring and evaluation group responsible for the development of an information system for utilizing information from large databases. The re has been implementation of technology in linking compensation database for inpatients and outpatients, payment for specific diseases, Register patient system or usage of data from other sources. The technology used consisted of Tableau, Google Studio, R Studio, Phyton and Cloudera including integrating information from organization's internal and external sources using API for data to be current. The Dashboard has been developed to present data in through infographics of which the data can be analyzed and monitored for the executives to make a decision including provision of Summary for executives to perform policy-decision-making. The 11 information systems developed in 2022 are as follows: 1. Health Promotion and Disease Prevention, 2. COVID-19 services, 3. Chronic Renal diseases services, 4. Telehealth, 5. DM/Hypertension services, 6. Access to medical supplies and drugs: Drugs Stock and inventory management, 7. OP Anywhere, 8. IP Anywhere, 9. Immediate change of rights (Gold Card policy), 10. Rights protection and cooperation, and 11. District Health fund operation as broadcasted through these channels:

1) edw database >> http://edw.nhso.go.th/bi/
2) Dashboard EIS : https://medata.nhso.go.th/eis/
3) Dashboard MIS : https://medata.nhso.go.th/appcenter/mis/welcome
4) COVID Information System: https://datastudio.google.com/u/0/reporting/e3a9d9de-b79d-4888-8d5e-6fd35e5fe371/page/IJ0WC

5.2 NHSO Budget & KPI Management System (BKM): used for planning, executing, monitoring and budget executive linked to the office's budgetary system including linked to indicators that can be monitored on a trimester basis.

5.3 Virtual Meeting Management system (VSMART): a meeting management system where officers can verify oneself through using Smartccard, pay for the meetings after verification of attendee's information, using electronic handwriting for payment system, development of i-Calendar for check for meeting schedules, which is also connected to i-Register menu.

5.4 Human Resources Information System (Sabuy): covering historical registration system, the recruitment system, payroll system, leave system and performance appraisal system; all of which are linked under a single system equipped with a modern service support in the form of Employee Self Service for employees to check their personal data and request for various services (Smart HR), decrease paperwork time and can evaluate information.

5.5 NHSO Massive Open Online Course (MOOC) (NHSO e-Learning): for employees to have fast, efficient and anytime access to learning in the form of video clips, PowerPoint presentations, portable document files, audio clips; students can self-evaluate, receive certificates upon completion of courses, a system recording the student's progress and educational history, and a statistical system presenting the number of attendees per course.

6. Information System to support External users and to publicize information where the NHSO had created an NHSO Dashboard to present information for external users and for the public to be continuously informed. Information from internal and external organizations have been compiled into infographics for relevant organizations to use for research and

development, monitor organizational performance, develop service quality improve payment efficiency or implement health policies. The target users of the Dashboard has been divided into 3 groups consisting of citizens, service units and academics, all of whom can have access to information simultaneously of the same province and other provinces while the policy agencies such as the MoPH, Health Regions can use the information on the Dashboard to monitor their national and regional affiliated service units. The Dashboard became public on 8th August, 2022, and has been divided into 2 types for 2 groups: 1. Dashboard for citizens to have access to general information such as services offered by the NHSO, health promotion and disease prevention services, COVID-19 services, chronic diseases services, and 2. Dashboard for service units where the operators can look at the allocated budget reports as well as monitor reimbursements, their service quality information for further development, request for disbursements from funds. Particularly, for the 2nd group, the information displayed includes budgets withdrew from funds, UC policy performance monitoring. In addition, data has been made public on Open Government Data, https://opendata.ncrt.go.th/ to use data for decision-making including promotion of cooperation between agencies and to adapt the organization into a data-driven organization.

Innovation of Public Health Data Management: Cloud

As per the results of the PAEC, Ad Hoc, in the 2021 FY, evaluation of the efficiency of the database system in government welfare operations, the UCS system and the issue of inequality in 3 funds. The issue with the Government Cloud Service initially could not satisfy the demands of the NHSO due to large amounts of data that require storage. Hence, a summarization and requirements proposal had been made to the Ministry of Digital Economy and Society (DES) as follows: 1. Allocate a Private Cloud service for the NHSO to accommodate a service-level agreement (SLA) as specified by the NHSO, 2. Design an Infrastructure as per NHSO's requirements in terms of hardware and software, 3. In cases where the DES cannot meets the requirements of the NHSO, the NHSO will procure its own Provider that can meet the SLA and Infrastructure as specified by the NHSO.

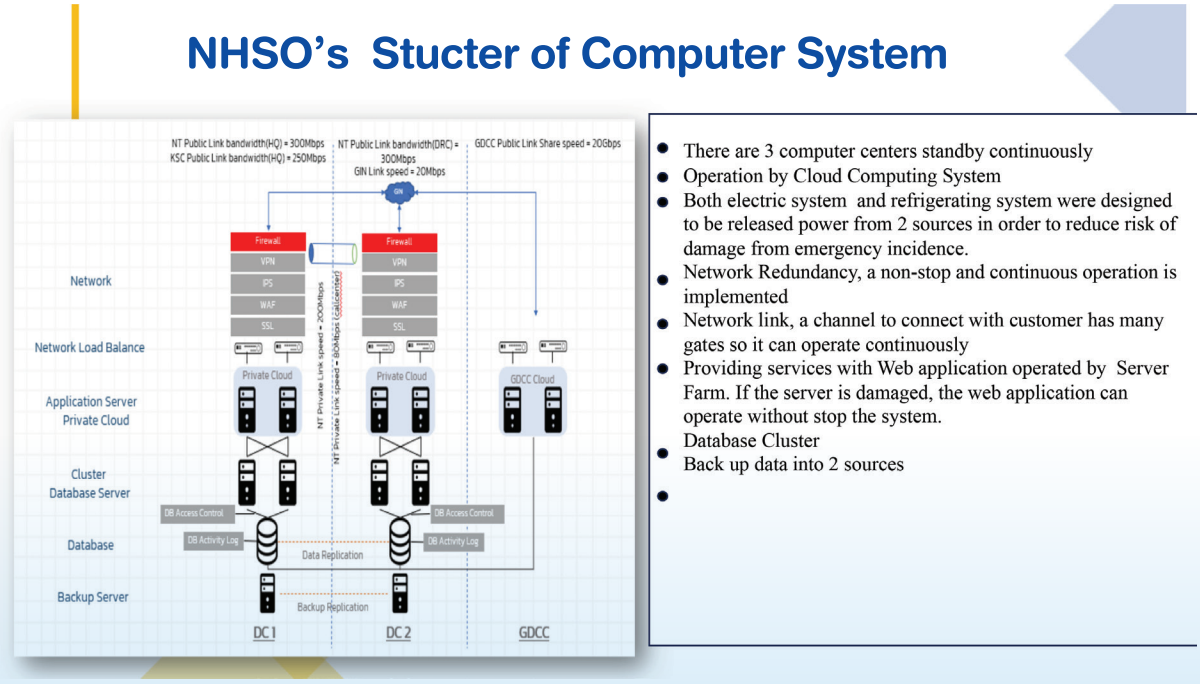


Figure 3 Office Computer System Infrastructure

Cyber Security or the NHSO digital development system is critical to operate within the frameworks of data governance and cyber security in accordance with the Cyber Security Act 2019 including to elevate the security to international standards for consumers to have the confidence and to create credibility for service utilization. However, with technological advancements comes risks to cyber security, information hacking, data and system suppression, damages incurred to the system, information theft can all lead to operation interruptions and damages will be incurred to people and assets. Hence, the NHSO had complied with the standards of National Institutes of Standards and Technology (NIST), USA, by creating a Personal data Protection Act (PDPA) committee for the NHSO, which had publicized the policies and guidelines on personal data protection in 2022 including an evaluation from the National Cyber Security Agency (NCSA) stating that the security has passed the required initial cybersecurity compliance criteria receiving the Certificate of Cyber Hygiene: Gold Level in the NCSA Cyber Hygiene Certificates 2022.

From the statistics of threat behavior, it has been found that there has been 35,928 attempts of data-hacking attacks but through the 20 security systems applied, the data was protected (as on 15th August, 2022) and were increased to 98 systems in 2022. Additionally, the NHSO has 274 systems for internal and external access where there are 9.4 million monthly requests for Authentication code and there are over 750 terabytes of information stored in the NHSO. The information has been linked to other agencies such as the Department of Provincial Administration, Ministry of Interior, the various departments, and agencies of MoPH. These efforts have been made for the cybersecurity actions to proceed as the Governmental Action Plan, Phase 5 (2023-2027) and Digital Development Strategy 5, where organizations will be driven to become data-driven organizations as per the Plan 5.4, development of PDPA, and cyber security management in international standards including to decrease risks of office and personal database theft. The performances of cybersecurity in 2022-2023 were under the guidelines of database security with cybersecurity tools such as Nextgen Firewall, WAF & Antivirus, encryptions during exchange of information on website, storage and analysis on Log Computer to prevent cyber-attacks including backups and system recovery tests.

As for the operations of Cyber Security for the 2023-2025 years, there are plans to develop in accordance with the NIST Cybersecurity Framework and organization of a cyber vulnerability inspection to prevent data theft or system invasion, develop procedures to protect from cybersecurity threats preventing leakage of data such as DLP, PAM, 2FA. There will be a provision for a rigorous surveillance and auditing, will be building awareness amongst personnel on handling cybersecurity threats, will be recruitment/ training of personnel to have expertise in security, improvements to be made to Cyber Incident Response Plan (CIRP) and regular drills for personnel.

3. Rights Protection Services

Due to the COVID-19 pandemic, the NHSO 1330 Contact Center had continuously offered its services for inquiries, complaints, petitions, monitoring the conditions of COVID-19 patients to citizens to have ongoing access to treatment. There was a total of 7,386,316 calls made to the MHSO Hotline in 2022 FY averaging at 7,000-8,000 calls per day; 930,494 calls were made to monitor citizens' conditions and provide consultations on health promotion and disease prevention. In addition, 330,830 calls were also made to COVID-19 patients sin HI or OPSI as to the services rendered as supporting information for consideration of payment to service units (Telephone Audit). Importance was given to picking up all calls with a target of Abandoned calls at less than 10 percent of totals calls and in the 2022 FY, the Abandoned calls ere at 7.37 percent. This is largely due to the continuous increase in call center officers from public and private volunteers such as from the military, the Red Cross, MoPH, FDA, Disease Control Department, Mental Health Department, sanitation department, health promotion department, EGAT, the banking association, Thammasat volunteers and civil society. Each day, there was an average of 600-700 officers servicing 1,600 telephones; the services extended to the online channels such as LINE, Facebook, Web board, Pantip and Traffy Fondue, which is the most recent channel of the NHSO and has been in use since July11th, 2022.

Development of the NHSO Hotline to NHSO 1330 Contact Center

To meet the diverse demands of citizens, the NHSO had implemented the Customer Relation Management (CRM) system through which an Omni-Channel was created where customers can contact the NHSO via

various online channels such as Line: @nhso, Facebook, Email, 1330, Web Board, Pantip, Live chat and Traffy fondue. All these channels lead to the CRM where officers can accept the issue and respond immediately, information is systematically stored. This has made it easier for officers to serve citizens as they can search for records of past services on the CRM system. Hence, in the 2022 FY, the various social media platforms have been linked to the CRM and officers have been trained to be able to provide professional and immediate services on phone (Voice) or online and social media (non-voice). Additionally, there have been Proactive Services for citizen to receive healthcare as deemed by the law through calls made to inform of various benefits for each age group such as cervical cancer screening, DM screening, hypertension in at risk groups, calls made post-services to evaluate satisfaction levels, evaluate quality of services and listen to suggestions to improve NHSO quality of services including cooperation with other agencies to increase accessibility and coordinate for patients to receive care.

Build Confidence that NHSO 1330 Contact Center will still be Operable in Emergency Situations

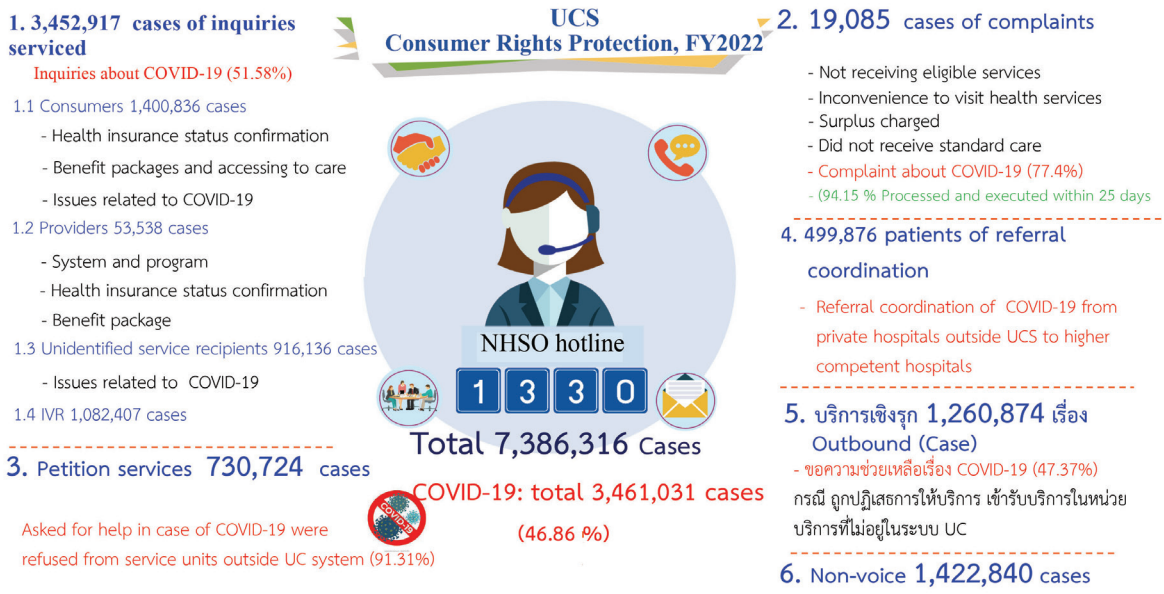
The NHSO prioritizes business continuous process to prevent interruption of services in various emergency situations such as floods, fire or protests closing governmental offices by building systems and training officers to be able to handle all situations at all locations. This framework is governed and controlled by the organization's risk management division, which conducts annual drills.

In the FY 2022, there were a total of 7,386,316 calls to the 1330 NHSO Contact Center of which 6,125,442 were Inbound calls and 1,260,874 were Outbound calls (17.07 percent); of the total 3,461,031 were regarding COVID-19, or 46.86 percent, and are classified into:

1) **Inquiries Serviced:** a total of 3,452,917 of which 1,781,139 (51.58 percent) were COVID-19 related, 1,400,836 (40.57 percent) were inquiries made by citizens, 53,538 (1.55 percent) were inquiries made by providers while 1,082,407 (31.35) were inquiries made through IVR and 916,136 (26.53 percent) could not group the category of the inquirer.
2) **Complaints Serviced:** a total of 19,085 complaints were made of which 14,785 (77.47 percent) were COVID-19 related.
3) **Petitions Serviced:** a total of 730,724 petitions were filed of which 600,126 (82.13 percent) were regarding COVID-19 where for patients requesting for Home Isolation and other petitions were at 130,598 (17.87 percent)
4) **Referrals Coordinated:** a total of 499,876 cases were coordinated of which 417,946 cases (83.16 percent) were COVID-19 coordination for patients to receive treatment in non-affiliated private hospitals, 81,930 emergency cases (16.39 percent)
5) **Outbound services:** 1,260,874 calls were made.
6) **Social Media, Non-voice services:** 1,529,082 contacts were made through the online channels of which 1,422,840 were serviced (Figure 3-7).

Figure

3-7 **Number of rights protection services in the Fiscal Year 2022**



Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

1. Information Inquiries

1) Information Inquiries

1.1) Inquiries made by citizens: there were a total of 1,400,836 inquiries of which 1,077,690 (96.99%) were regarding rights of the UCS of which the majority 365,349 cases (26.08 percent) were regarding COVID-19 followed by eligibility verification at 283,913 (20.27 percent) followed by benefit package and accessing to public healthcare at 214,456 (15.32 percent) (Table 3-2).

Table

3-2 **Number of Information Inquiries serviced of consumers in the Fiscal Year 2018-2022**

Unit: Cases

Inquiries from consumers	2018	2019	2020	2021	2022
1. UCS	811,259	747,110	835,992	1,559,153	1,077,690
1.1 Registration and selecting healthcare units	85,496	96,819	110,287	73,198	123,567
1.2 Benefit package and access to care	217,529	224,642	281,410	483,773	214,546
1.3 Compensation for harmed persons from health service by section 41 of the act	278	264	203	37	75
1.4 Health insurance status confirmation	402,296	369,506	384,777	819,651	283,913
1.5 Hospital information	66,643	18,129	19,814	12,303	15,817
1.6 Organization information	3,424	4,125	4,121	1,321	513
1.7 Universal Coverage Emergency Patients: UCEP	3,892	3,704	2,823	504	470

Table 3-2

Number of Information Inquiries serviced of consumers in the Fiscal Year 2018-2022

Unit: Cases

Inquiries from consumers	2018	2019	2020	2021	2022
1.8 Invalid medical welfare	1,511	1,674	1,558	650	894
1.9 Disability Person in Social Security Schemes	1,627	958	772	87	-
1.10 Public relations	76	48	30	306	-
1.11 COVID-19 Situation	-	-	-	116,362	365,349
1.12 Others: news, other organizations, etc.	28,487	27,241	30,197	50,961	72,546
2. CSMBS	3,781	3,373	2,736	5,270	56,736
3. SSS)	13,708	11,154	10,872	27,129	234,364
4. LAOs	11,989	11,094	11,512	10,426	3,105
5. Others	2,352	2,444	2,042	5,625	28,941
Total	**843,089**	**775,175**	**863,154**	**1,607,603**	**1,400,836**

Source: Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022

1.2) Inquiries made by providers totaled to 53,538 cases comprising of 44,914 cases (83.89 percent) relating to the UCS of which the majority was regarding the Provider Center's system and program at 28,107 cases (62.58 percent) and eligibility verification at 5,577 cases (12.42 percent) (Table 3-3).

Table 3-3

Number of Information Inquiries serviced of healthcare providers in the Fiscal Year 2018-2022)

Unit: Cases

Inquiries from Healthcare Providers	2018	2019	2020	2021	2022
1. Providers in UCS	50,281	104,308	98,310	91,503	44,914
1.1 Registration and selecting healthcare units)	1,570	1,520	1,376	1,306	1,050
1.2 Benefit package	4,349	4,400	4,271	4,927	2,039
1.3 Receiving refund	2,189	2,169	3,177	2,609	301
1.4 Compensation for harmed persons from health service by section 41 of the act	13	35	14	-	-
1.5 Compensation for harmed persons from health service by section 18(4) of the act	9	7	12	-	-
1.6 Health insurance status confirmation	12,233	15,862	13,363	6,960	5,577
1.7 Hospital information	437	345	289	214	167
1.8 Organization information	801	841	802	404	106
1.9 Universal Coverage Emergency Patients: UCEP	735	713	651	94	94
1.10 Invalid medical welfare	592	629	444	252	105
1.11 Disability Person in Social Security Schemes	420	227	128	13	-
1.12 Public relations	4	3	3	11	0
1.13 Provider center: System and Program	14,488	65,365	64,686	64,648	28,107

Table 3-3 **Number of Information Inquiries serviced of healthcare providers in the Fiscal Year 2018-2022)**

Unit: Cases

Inquiries from Healthcare Providers	2018	2019	2020	2021	2022
1.14 COVID-19 Situation	-	-	-	1,842	2,605
1.15 Others; news, other organizations, etc.	12,441	12,192	9,094	8,223	4,763
2. Providers in CSMBS	2,091	2,005	1,423	938	1,118
3. Providers in SSS	1,519	1,600	1,394	2,708	4,169
4. Providers in LAOs	3,164	2,781	1,700	1,449	1,574
5. Other medical welfare	840	1,044	783	1,359	1,763
Total	**57,895**	**111,738**	**103,610**	**97,957**	**53,538**

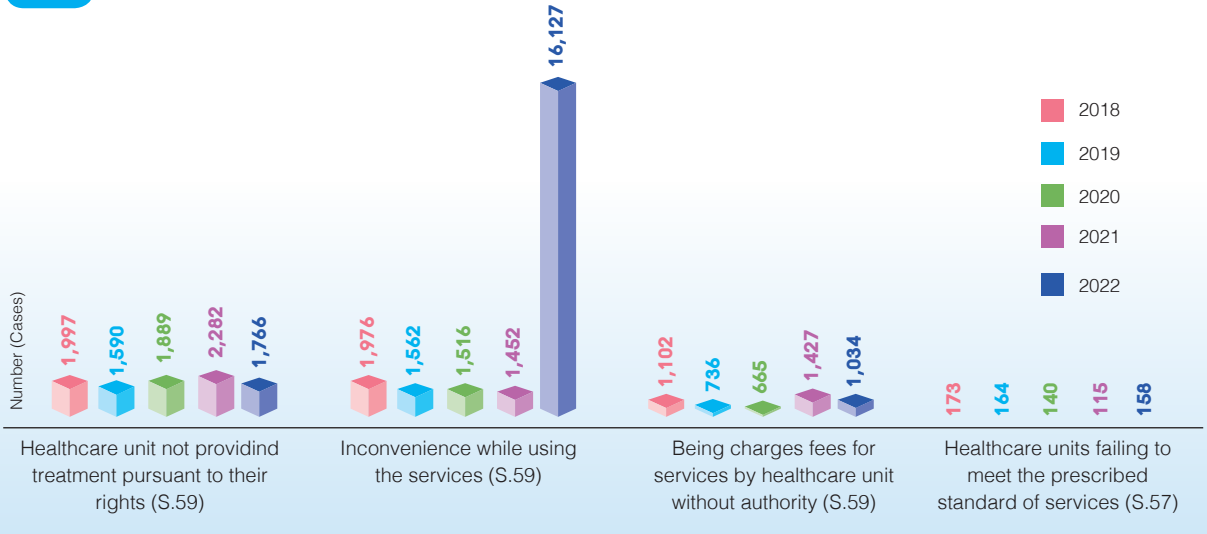
Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

2. Complaints Serviced

Accepting complaints is another mechanism to protect citizens' rights as it acts as a channel for citizens to provide information regarding healthcare issues. As a result, there will be an increase in transparency of services and establishing a better understanding between the customers and providers, who may not always be at fault, but the mistake was due to a misunderstanding.

In FY 2022, the NHSO had received a total of 19,085 complaints of which 16,127 complaints (84.50 percent) (Section 59) were by inconvenienced beneficiaries. Beneficiaries not receiving eligible services lodged 1,766 complaints (9.25 percent) (Section 59) followed by 1,034 complaints (5.42 percent) regarding surplus charges made by providers while 158 complaints (0.83 percent) did not receive MoPH standard care (Figure 3-8). There were 18,717 complaints that were processed, and 17,734 (94.15 percent) were executed within 25 business days (Figure 3-9).

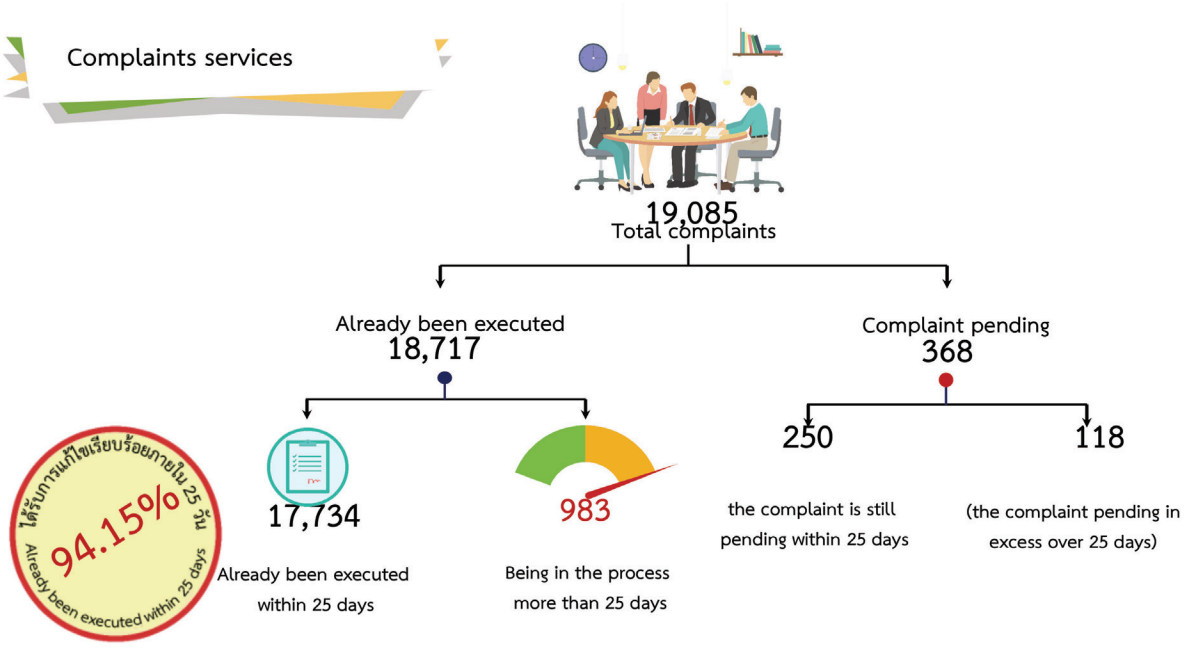
Figure 3-8 **Number of Complaints serviced classified according to UCS Act. in the Fiscal Year 2018-2022**



Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

Figure

3-9 **Number of Complaint management and already been executed within 25 working days in the Fiscal Year 2022**



Source: *Bureau of Consumer Services and Right Protection, NHSO, Data at 30 September 2022*

Note: *Percentage of Executed Complaints =*

$$\frac{\text{Complaints (Section 57, 59) executed within 25 days X 100}}{\text{(All complaints - Complaints executed still pending within 25 days)}}$$

3. Petition Serviced

In the FY 2022, the NHSO had 730,724 petitioned cases of which 700,095 (95.81 percent) were UCS rights comprised mainly of COVID-19 issues such as Home/ Community Isolation, or COVID-19 screenings at other service units 667,198 cases (95.30 percent), followed by 18,999 cases (2.71 percent) on assistance (such as monitoring, petitioned for financial assistance, registration) followed by 7,435 cases (1.06 percent) of on registration and selection of healthcare units (Table 3-4).

Table 3-4 **Number of Petition serviced in the Fiscal Year 2018-2022**

Unit: Cases

(Petition Services)	2018	2019	2020	2021	2022
1. UCS	8,752	5,760	5,038	162,322	700,095
1.1 Registration and selecting healthcare units	6,373	3,834	2,923	4,289	7,435
1.2 Invalid medical welfare	586	523	443	346	394
1.3 Asking for help	900	661	670	815	718
1.4 Consult/recommend	366	356	517	493	415
1.5 Being refused under section 7	3	5	-	-	1,812
1.6 Being refused to use UCEP service	12	5	4	122	-
1.7 Anonymous letter	182	164	112	120	85
1.8 Services	-	-	-	-	18,999
1.9 Being refused to service about COVID-19	-	-	228	155,841	667,198
1.10 Other issues	330	212	141	296	3,039
2. CSMBS	26	36	27	3,089	5,436
2.1 Being refused to use UCEP service	3	1	3	11	37
2.2 COVID-19	-	-	-	3,039	5,112
2.3 Other issues	23	35	24	39	287
3. SSS	14	12	20	14,995	21,877
3.1 Being refused to use UCEP service	-	-	-	29	392
3.2 COVID-19	-	-	-	14,905	21,310
3.3 Other issues	14	12	20	61	175
4. (LAOs	65	24	14	60	103
4.1 Being refused to use UCEP service	-	1	-	1	3
4.2 COVID-19	-	-	-	52	90
4.3 Other issues	65	23	14	7	10
5. Others	-	-	-	59	3,213
5.1 COVID-19	-	-	-	52	2,952
5.2 Other issues	-	-	-	7	261
Total	**8,857**	**5,832**	**5,099**	**180,525**	**730,724**

Source: Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022

4. Coordination for Referral Serviced

In FY 2022, the Coordination Center for Referral Services of Accidents and Emergency Patients referred a total of 499,876 patients of which 388,772 patients (77.77 percent) were under the UCS. Majority of the UCS patients were COVID-19 patients at 306,746 cases (78.90 percent) followed by 81,930 cases (21.07 percent), who had received treatment from unaffiliated private hospitals (Table 3-5).

Table 3-5 **Number of Coordination issues for referral serviced in the Fiscal Year 2018-2022**

Unit: Cases

Coordination for Referral Services	2018	2019	2020	2021	2022
1. UCS	14,809	19,164	19,049	55,549	388,772
1.1 Being in private hospitals outside UCEP service	14,511	19,045	18,972	21,527	81,930
1.2 No bed/bed not available	32	11	6	7,795	17
1.3 Not enough competency/exceed the capacity of healthcare units	240	97	57	170	51
1.4 Go back to contracting unit	26	10	10	45	18
1.5 Coordination for Referral Services COVID-19	-	-	-	25,729	306,746
1.6 Other issues	-	1	4	283	10
2. CSMBS	39	26	28	2,883	22,496
2.1 Coordinating referrals and Universal Coverage for Emergency Patients	39	26	28	793	29
2.2 coordinating referrals for COVID-19 patients	-	-	-	2,090	22,467
3. SSS	23	17	14	20,220	81,522
3.1 Coordinating referrals for general patients	23	17	14	5,772	40
3.2 Coordinating referrals for COVID-19 patients	-	-	-	14,448	81,482
4. LAOs	279	379	357	442	2,169
4.1 Coordinating referrals and Universal Coverage for Emergency Patients	279	379	357	345	15
4.2 coordinating referrals for COVID-19 patients	-	-	-	97	2,154
5. (Others	63	45	50	44,613	4,917
5.1 Coordinating referrals and Universal Coverage for Emergency Patients	-	-	-	2,070	5
5.2 coordinating referrals for COVID-19 patients	-	-	-	42,543	4,912
Total	**15,213**	**19,631**	**19,498**	**123,707**	**499,876**

Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

5.Calling to follow up and inquiries received services

In the FY 2022, the 1330 NHSO Contact Center had proactively increased its patients' monitoring efforts, monitored quality of services received, engaged in public relations and surveyed satisfaction levels having called back 1,260,874 patients of which 273,046 calls (21.66 percent) were monitoring patients' conditions while 330,380 cases (26.20 percent) were inquiries regarding service quality and 657,448 cases (52.14) were conversation regarding invitation to receive health promote and disease prevention services (PR) and customer's satisfaction surveys (Table 3-6).

Table 3-6 **Number of calling to follow up and Inquires received services the Fiscal Year 2021-2022**

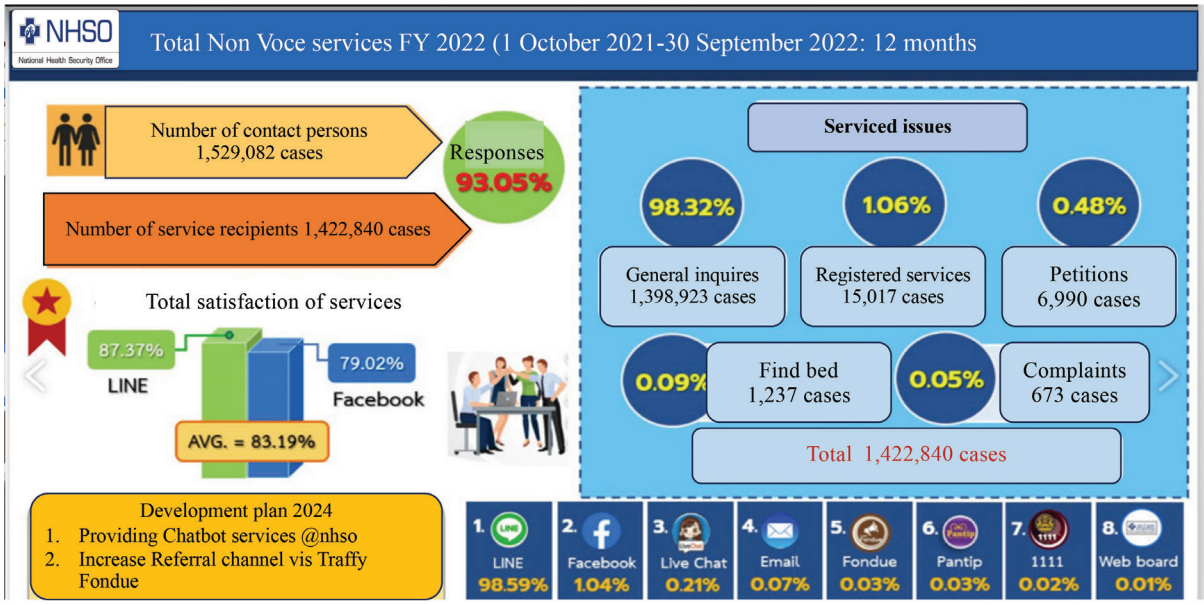
Unit: Cases

Calling to follow up and inquires received services	2021	2022
1. Follow up to signs and symptoms	47,069	273,046
1.1 Covid-19 patients	44,911	266,869
1.2 Chronic Kidney Disease and Cancer patients, during the flood	240	-
1.3 Patients being in private hospitals outside UCEP service	1,918	6,177
2. Follow up to receiving services	189,743	330,380
2.1 COVID-19 patients isolated at home, HI	183,030	154,137
2.2 Outpatient with Self Isolation: OPSI	-	1,298
2.3 Distributing and receiving Antigen test kits	6,713	8,079
2.4 COVID-UCEP	-	166,866
3. Others	-	657,448
3.1 Provided information for P&P services, vaccinate flu, Screening CA cervix, etc.	-	653,735
3.2 Inquires received service for HD-self pay patients	-	1,213
3.3 Inquires satisfaction for complaint management	-	2,500
Total	**236,812**	**1,260,874**

Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

6. Social media, Non-voice)

Figure 3-10 **Number of Non-voice Contact or Social media Fiscal Year 2022**



Source: *Bureau of Consumer Services and Right Protection, NHSO, Data on 30th September 2022*

In the 2022 FY, the NHSO had provided another contact channel for citizens through the various social media (non-voice) where 1,529,082 citizens had made contacts of which 1,422,840 were serviced (93.05 percent); 1,398,923 of the serviced cases were regarding general inquiries, 15,071 were regarding registration and 6,990 cases were complaints.

For Non-voice channel, the majority of the contacts, 98.59 percent, were made through NHSO's Line account followed by Facebook (1.04 percent) and Live Chat (0.21 percent) while the other channels through Email, Traffy Fondue (July11th, 2022), Pantip, Web Board, and COVID-19 Hotline did not see many contacts by citizens (Table 3-10).

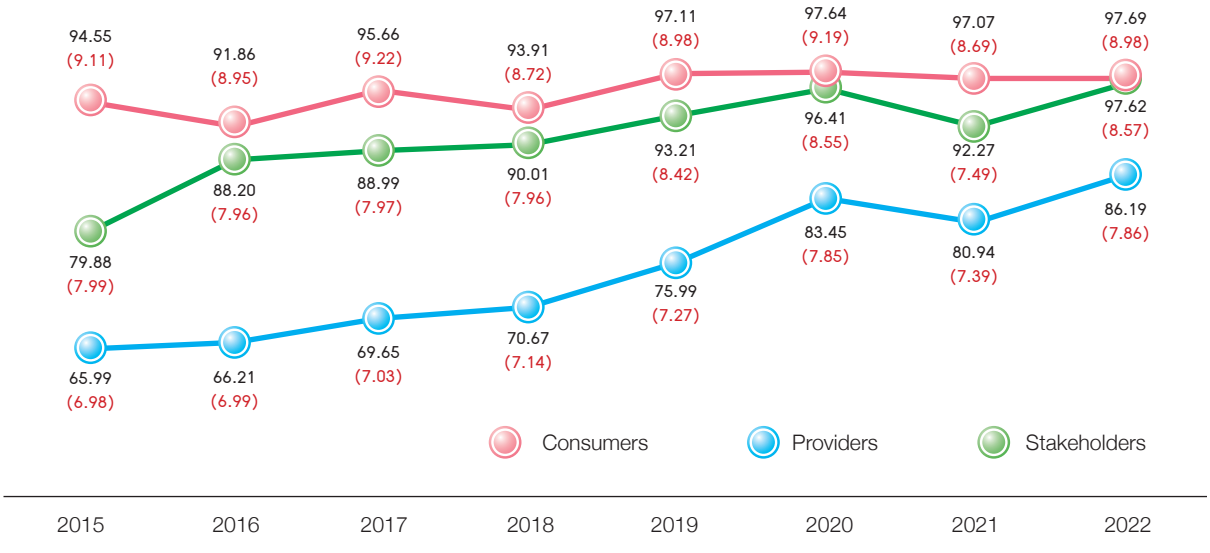
4. Consumers Providers and Stakeholders Satisfaction to Universal Coverage Scheme

The Consumers and Stakeholders Satisfaction Survey, conducted by the Academic Institute starting from 2003, found that there has been a continuous increase in satisfaction among consumers, providers and associated organizations.

In FY 2022, 97.69 percent (the average satisfaction was at 8.98 points) of citizens, who uses UCS services, gave the highest satisfactory score (7-10 points) for UCS services followed by 86.91 percent of providers (the average score was at 7.86 points) while 97.62 percent (the average score was at 8.57 points) of the associated organizations (the LAOs and the twelve public sector organizations). The overall picture indicates that there was a higher level of satisfaction in service recipients compared to the providers and may be because of many factors; this is a representation that the NHSO was able to meet the demands of the citizens. However, certain managerial aspects may not satisfy the needs of the providers, which is a challenge for the NHSO to satisfy different target groups to attain a higher satisfaction score (Figure 3-4 and Table 3-7).

Figure

3-11 **Percentage and Score of Satisfaction from Consumers, Healthcare providers and other Stakeholders in the Fiscal Year 2015-2022**



Source: *Satisfaction Survey of Consumers, Healthcare Providers, and other Stakeholders to Universal Coverage Scheme in the Fiscal Year 2015-2022, NHSO*

Notes: *1. The percentage of satisfaction for target groups who identified score at 7-10*

2. In 2019-2022, Survey use Sampling frame of National Statistical Office

Table 3-7

Suggestion from Satisfaction Survey of Consumers, Healthcare Providers, and other Stakeholders to Universal Coverage Scheme in the Fiscal Year 2022

Target Group	Suggestions
 Citizens	- Increase awareness of service units, PR channels specifically 1330 including creating awareness on benefits and service improvements for citizens through using local PR channels - Develop cooperation between local and community units to increase understanding and access to NHSO information including online benefits checking system - Increase awareness on issues that are not often broadcasted and prevention of extra billing - Bettering the online authentication system specifically during high demand periods - New Normal health services to decrease over crowdedness in health service units
 Providers	- Publicize news, the changing rates of reimbursements for providers through online channels - Development of an efficient system to support, provide information for compensation including auditing - Develop amore efficient payment system
 LAOs	- A need for LAOs to publicize news and benefits for locals who still aren't aware of their benefits or misunderstands their benefits - Drive for health promotion and disease prevention, awareness of an epidemic through more NHSF activities conducted locally - Develop a system for broadcasting news efficiently and correctly - Review of regulations, rules and budget usage
 Networks	- Broadcasting of news, instant updates focusing on proactive communication through online channels - Support more participation from organizational networks - Improve benefits for equality in services.

Source: *Satisfaction Survey of Consumers, Healthcare Providers, and other Stakeholders to Universal Coverage Scheme in the Fiscal Year 2022, NHSO*

5. Performance Indicator Assessment Report of NHSO, appraisal of working capital, in the Fiscal Year 2022

The Comptroller General's Department had appraised the working capital for all fiscal years of the NHSO as a mechanism of regulating the operating funds in accordance with its main mission to build an organization with a good, efficient and transparent management system. The evaluation framework comprises of 6 indicators: 1. Finances, 2. Stakeholders' benefits, 3. Operations, 4. Management of Working Capital, 5. Performances of the executive committee, managers, employees and workers in managing the working capital, and 6. Operations in accordance with the policies of Ministry of Finance as indicated by TRIS Corporation Limited which had set the indicators and had evaluated performance according to those indicators.

The Performances of the Operating Funds in 2022 FY

The evaluation of the performances of NHSO in the 2022 fiscal year as per the 20 indicators classified into 13 indicators by the NHSO consisting of Indicators 1-3 while the indicators 4-6 are mandatory as per the Comptroller's department totaling to 7 indicators.

For the NHSO's self-evaluation on the operation fund's performances for the 2022 fiscal year end period had 13 indicators of which 65 percent had passed the evaluation while 7 indicators, or 35 percent, were where the NHSO had failed the evaluation; the total score was 4.8940 from a total of 5.000. This initial score may be subject to change

after the Comptroller's Department and TRIS Corporation Limited had reevaluated and will officially inform of the fund of its performances for the 2022 Fiscal year (Table 3-8).

Table 3-8 **Key Performance Indicator Assessment Report of NHSO in the Fiscal Year 2022**

Indicators	Self-Evaluation Score	Results
1. Finances (10% weight)	4.4893	
1.1 Efficiency in Management of Funds		
1.1.1 Percentage of units achieving targeted per capita remittance	3.9785	1 out of 14 unit could not achieve the targeted capita remittance; results at 92.85 percent
1.1.2 Percentage of units receiving funds transfers on time	5.0000	39,286 units, or 100 percent, received funds transfers on time
2. Stakeholders' benefits (20% weight)	5.0000	
2.1 Development of database to assess outcomes and impacts of working capital	5.0000	Achieved 100 percent of the targets as per the database system development plan
2.2 Universal Coverage Scheme Satisfaction		
2.2.1 Citizens	5.0000	Satisfaction at 97.96 percent
2.3.2 Other organizations	5.0000	Satisfaction at 97.96 percent
2.2.3 Providers	5.0000	Satisfaction at 8619 percent
2.3 Catastrophic Health Expenditure, no more than 2.3 percent	5.0000	Households with health expenditures a 2.10 percent
3. Operations (35% weight)	4.8829	
3.1 Performances of integrating information systems on COVID-19	4.8000	Patients without monitoring leading to advancing from Yellow Zone to Red Zone at 0.20 percent when compared to all patients
3.2 Integrity and Transparency Assessment as per the government's standard (NACC)	4.5000	89.14 percent and lower than 2021's performance (89.42 percent)
3.3 Performances on development, review announcement and relevant regulations during the COVID-19 pandemic	5.0000	Performances exceeded target
3.4 Percentage of authenticated Home Isolation and correct reimbursements as per the additional specification added in the year prior	5.0000	Performances exceeded target at 45.22 percent
3.5 Effectiveness of citizens' network participation	5.0000	9 networks' performances exceeded target and 3 networks have guidelines to be implemented in 2023
3.6 Percentage of citizens incurring damages from COVID-19 vaccination	5.0000	94.25 percent
4. Management of Working Capital (15% weight)	4.9478	
4.1 Risk Management	4.9200	Units unable to quantitatively and qualitatively describe the causal analysis of the integrated risk factors
4.2 Internal Audit	4.9234	Units with unclear performance data: 1. Risk assessment for long-term audit planning, 2. The 2022 audit plan did not include risk-based allocation of resources, and 3. No assessment of likelihood or impact including no risk assessment on post-control activities
4.3 Information Management Systems	5.0000	Performance to target

Table 3-8

Key Performance Indicator Assessment Report of NHSO in the Fiscal Year 2022

Indicators	Self-Evaluation Score	Results
5. Performances of executives, managers, employees and workers in management of working capital (10% weight)	4.9390	
5.1 Role of working capital committee	4.9869	Performances below target from the performances of the working capital committee based on the overview of performances
5.2 Human Resources Management	4.8912	Performances not to target are 1. Performances as per the action plan revealed 2 out of 6 projects were a success and 2. No significant process analysis were found or research on the main processes and supporting processes of working capital's mission
6. Execution per the governmental/ Ministry of Finance's policies (10% weight)	5.0000	
6.1 Disbursement under an approved disbursement plan	5.0000	100 percent of overall expenditures when compared to disbursement plan
6.2 Implementation as per the payment system and receipt of the working capital through electronic systems	5.0000	100 percent payment through the electronic system
Total Self-Evaluation Score (Initial)	**4.8940**	

Note: The self-evaluation score is a score based on the indicators on the performance of the working capital for the 2022 fiscal year end of the NHSF as per performance recordings in the program RFES on 24th November, 2022; the Comptroller's Department and TRIS Corporation Limited to analyze and officially present the score in April, 2023.

6. Obstacles and Challenges

The 2022 FY was still facing impacts from COVID-19 when it was declared as an endemic and the society had returned to New Normal including revitalization of the nation's economy. This situation was compounded by the world's economy that had not revitalize and was unstable. These circumstances were significant challenges to Thailand's public healthcare system where all sectors, including the Universal Coverage Scheme must be prepared and resilient, had to adapt to rapid changes and various emergency situations. The adjustments were made particularly for citizens' well-being and efficient management of public healthcare including pioneering modern technological advances for operations and developments.

As per designations in Section 26 (13) of the National Health Security Act 2002, the NHSO to report obstacles of the boards of Universal Coverage Scheme and Quality and Outcome Framework including draft an annual report for publication. The two obstacles faced by the boards are as follows:

1. Obstacle of National Health Security Board Implementation

1) Managing the limited National Health Security Fund for sufficiency, appropriateness, effectiveness including creating a balance between expenditures for health promotion and diseases prevention, and expenditures of treatment for illnesses that are expensive; the obstacles also include adapting payments/ seeking new services alternatives that efficient and cost-effective enabling citizens to have equal and equitable access to essential health services including reducing the burden of household medical expenses to services units operating without financial risks.

2) Designing a financial mechanism that is appropriate and motivating to promote usage of important and necessary services by citizens particularly services created ijn adaptation to the New Normal lifestyle including encouraging participation from all sectors comprising of public, private, citizens and various volunteer societies to the end goal of providing public healthcare access to citizens.

3) Controlling disbursements to be accurate, transparent, and verifiable through a good and adequate audit system

4) Development and training of knowledge, personnel, budgets, feasibility evaluation and related laws, or regulations for adjustments to the rapid changes in innovations and disruptive technology in society

5) Inability for certain groups of citizens such as the underprivileged, or vulnerable, groups including the poor in urban cities plus homeless individuals, middle- to high-socioeconomic individuals to gain access to appropriate eligible benefits and care.

6) Optimizing the integration of information systems and leveraging big data for monitoring and evaluation including linking data from various departments and using of such data to drive decision-making on national health insurance and other related policies.

7) Interpreting issues and limitation of laws and regulations such as the provision of health promotion and disease prevention to Thai citizens from other insurance schemes including the arrangement of new services and participation in public health services from various professions.

8) Expansion of participation in NHSO projects from other sectors such as LAOs, civil societies, central and local health network partners including private hospitals plus central and local health networks

2. Obstacle of Health Service Standard and Quality Control Board Implementation

1) Controlling, regulating, and promoting quality of providers and networks including monitoring access to essential healthcare services particularly during a public health crisis.

2) Inability to attain efficiency in the database system to monitor, evaluate and integrate between various agencies specifically, data regarding quality and outcome of treatment to be used as guidelines in the promotion of quality, standard, supervision, and evaluation of treatment in local areas.

3) Creating awareness for citizens regarding their benefits and providers regarding their responsibilities to the Universal Coverage Scheme system to increase access and protection of rights.

4) Regulating, monitoring, and promoting the quality of all sectors/stakeholders on national and local level.

3. Challenges Moving Forward for Universal Coverage Scheme vimplementation in the Macro Level

The success of the Universal Coverage Scheme largely relies upon the cooperation and support from the government, policymakers, the National Health Security board, the Quality and Framework board, all relevant organizations and networks, service providers, civil societies, private organizations, professional organizations including other governmental agencies with a unanimous goal of providing all Thai citizens with access to equitable healthcare and a sustainable universal coverage.
The 2021 fiscal year had faced with a macro level challenge impeding the development of the Universal Coverage as follows:

1. Although Thailand is in the revitalizing process, the severe spread of COVID-19 over a long period of time had caused a continuous regression and slowdown of the economy and society affecting the lifestyles of individuals, communities, and societies. Eventually, this had led to acute impoverishment for many individuals for whom the chances of breaking out of the poverty trap are becoming increasingly difficult with a high tendency of the next generations also facing the same impoverished status. This has led to societal infrastructural problems specifically in regards to the large disparity in financial status and access to public infrastructure and services. The lower socioeconomic individuals became increasingly vulnerable and at risk of bankruptcy from illnesses including limitations from the National Health Security fund, simultaneous with the increasing public healthcare liability to prevent and resolve the COVID-19 pandemic. Therefore, it is still a challenge for National Health Security Fund to achieve efficiency and build fiscal flexibility including adjusting for a rapid disbursement to reduce risks and financial complications for service providers.

2. The rapid and unforeseen changes resulting from innovations and disruptive technology, the environmental changes, emerging diseases and epidemics have forced the public healthcare system to be prepared and flexible to adapt to the changing situations whether normal or emergency situations. It became apparent that an appropriate healthcare system needs to be developed in consistent with the New Normal lifestyle through the addition of telemedicine, or digital healthcare, for efficiency in treatment and prevent including organizing a variety of new services for better access specifically for the vulnerable group or other services that citizens have minimal access to.

3. Thailand is officially entering the “Aged Society” with individuals over the age of 60 years at 20.1 percent of Thai population while there is an opposing trend in the working-age and school-age population that continuously decreasing. This is considered a challenge since there will be income disparities and increase in liability for the nation’s budget to care for the elderly. Therefore, it is vital to manage databases on long-term care for bedridden elderly through cooperation with local healthcare centers and increase efficiency in management of the local/ regional national health fund.

4. Development of information system and Big Data including management an authenticating system for solicitation of services and Real Time inspection of disbursements, usage of artificial intelligence for payment audit including monitoring and evaluation (M&E) as important tactics in managing the National Health Security Fund. Furthermore, this will elevate the national public healthcare for citizens, providers and relevant agencies can utilize such data and share data to policymakers as empirical evidence in making the right policy decisions.

5. Primary Care and Community Health Centers are the foundations of Thailand public healthcare that must be strengthened, specifically regional primary healthcare units, including be prepared for expediting the adjustment of services that citizens do not have access to such as health promotion and disease prevention (P&P), other important illness to the end-goal of reassuring citizens that undue financial hardships will not occur including ascertaining that citizens trust the services.

6. Upgrading health literacy and creating awareness for citizens particularly including media literacy to lead to behavioral changes and be informed of one's health status plus focusing on Self-Care

7. The upgrading of the national health security must be consistent with the National Strategy and Country Reform (Revised Edition). In regards to the public healthcare category from all three insurance schemes namely the UCS, SSS and CSMBS, the end goals are to create fairness and reduce inequality in all aspects, attain harmony between the national health security funds and other relevant funds, focus on all population groups to receive quality and standard healthcare that is fair and equitable including for aliens to have statutory health insurance without becoming a financial liability to the providers and without any health effects on society as a whole.

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