NHSO
National Health Security Office

NHSO
Annual Report

Fiacal Year
2017

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A message from the Chair of the National Health Security Board

The health of the Thai people is a very important issue, as such government policies have been put in place to improve the quality of public health services, thereby the health of the people. The foundation of the health insurance system was established to cover all those eligible equally, giving everyone access to the same high quality of care. Although benefit packages may vary, there should be no difference in quality of service provided. The major objectives, set down by the 20-year national strategic framework, are to strengthen and develop the potential of the country as a whole to create fairness, to reduce disparity in society, and to give all Thais healthier, longer lives

The National Health Security System is an integrated system with improved efficiency of fiscal management. Its guiding principles are “decreased suffering, increased happiness” and “The strong can strengthen the weak; the wealthy can enrich the poor”. There has been continuous adjustment and development to the system since its initial creation and implementation over 15 years ago. This has ensured better accessibility, coverage, protection of rights and budgetary optimizations as well as providing harmony between public health insurance systems.

In FY 2017, the first fiscal year of the National Health Development Plan Phase 4 (FY2017-2021), the National Health Security Board has focused on improving the quality of public health services as well as the health of the people. Through discourse, brainstorming and

cooperation the Ministry of Public Health, the provider of primary care services for the national health insurance system, and the NHSO have accelerated many important operations. These include:

1) Enhanced quality and service which seamlessly supports the policy of establishing a Primary Care Cluster (PCC) to cover and provide integrated services for the entire Thai population, among other services, disease prevention, treatment and rehabilitation;

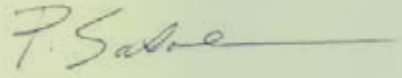
2) Quality control and management standards services for patients with kidney dialysis and "end-stage" renal diseases; in collaboration with the Royal College of Physicians of Thailand;

3) Building communities within the National Health Security System, creating new bonds and facilitating mutual support through joint commitment and responsibilities for the benefit of all;

4) Providing the unchargable fee 1330 hotline to public for more accessible information and service; and

5) Improving processes and channels to gather feedback, comments and other issues. Ensuring updates to rules, regulations, announcements and orders are consistent and accommodate changes as well as updated policies on the recruiting and selecting of NHSO management and personnel.

The achievements made so far have been successful due mainly to good support and collaboration with stakeholders and other alliances. I would like to thank both executives and staff from the Ministry of Public Health (MoPH), other related ministries, National Health Security Board, health facilities and hospitals both government and private, health professional institutes, local administrative organizations, civil society, and other related organizations including the NHSO for their involvement in universal health coverage development and support in the implementation of the government's universal health coverage policy. As a result, citizens are ensured an accessible standard quality of care; health equity; and benefit packages that cover more of the targeted groups, especially the disadvantaged.



(Clinical Prof. Emeritus Piyasakol Sakolsatayadorn,M.D.)
Minister of Public Health
Chair of the National Health Security Board

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

The term length set for the Health Service Standard and Quality Control Board (HSQCB) is four years and FY2017 sees the second year of its fourth incarnation (FY2016-2019). Over the past two years, the HSQCB has performed its duties in accordance with Section 50 of the FY 2002 National Health Security Act. In the past year, the HSQCB has focused on integrating the National Health Security Strategy Development Phase 4 (FY 2017 – 2021) Strategy 2: Ensuring quality, standards and adequacy of services. This is in accordance with Section 5 of the National Health Security Act FY2002, which states that all persons have the right to receive standard and effective public health services. It includes provisions ensuring equitable access and treatment with full protection of rights that are linked from service to national level.

Summary of HSQCB's performance in FY2017

1) Determining the direction and strategy on quality, standards and protection of rights.

The Quality Control subcommittee and the Participatory and Rights Protection subcommittee have guidelines set by the HSQCB, in accordance with the National Health Development Plan Phase 4 (FY2017- 2021). The goal is to provide health service standards and quality control, as well as organizations ensuring the protection of civil rights.

In addition to quality control standards and the protection of rights at a National level the Quality Control subcommittee has, in the thirteen regions, established mechanisms relevant to those areas. Guidelines and action plans monitor quality control standards ;protect rights at the local level, based on contextual and critical issues of each area; and reduce negative impacts while promote dialogue between consumers and providers to improve services.

2) The strengthening of regulatory mechanisms, quality of standards and the protection of rights at the local level.

The Quality Control subcommittee plays an important role in supervising and monitoring the services provided by local health units. The standard of quality and access to rights are linked to various mechanisms of that area. In the past year, an HSQCB meeting was held to drive the implementation of quality control and standardization of local and regional rights. The seminar focused on four main areas: Northern, Northeastern, Central, and Southern regions. Policies and operational guidelines allow the Quality Control subcommittee and Provincial Assistance Subcommittee to perform duties effectively. Other relevant mechanisms are the Coordination Unit for Public Health Collaboration and the Sub-Committee on Health Coverage. The Regional Committee on Universal Coverage Fund Allocation for hospitals affiliated with the MoPH decides how local budget allocation is spent.

3) Collaboration and ownership of all sectors to support quality standards and protection of rights.

The operation of the fourth HSQCB has focused on creating links and system integration between the public and private sectors, professional bodies, associations and other related organizations. In the past year the HSQCB has coordinated with the MoPH and the Royal College of Nursing to set measures that regulate quality and standards for public health services such as the prevention of postoperative complications and infections, and chloroquine complications in rheumatoid arthritis patients. “In addition”, there are proposals and guidelines for the integration of quality control and protection of rights for a safety strategy of patients and public health personnel. (2P Safety) in collaboration with the Institute of Quality Assurance.

The operation of HSQCB over the next four years is to provide people with quality, standard and safe health services. The services must be accessible, use quality systems and have sustainable standards. As well having to follow the National Health Security Act FY 2002 and the National Health Development Plan Phase 4 (FY2017- 2021) there are other challenges that the HSQCB will need to address. These include creating awareness and understanding between consumers and service providers; reducing conflict; and developing quality and service standards by using information technology etc.

My thanks go to HSQCB, all relevant subcommittees and the NHSO for participation in promoting and regulating quality and standards of service, the protection of rights, and giving people the health service they deserve in accordance with the National Health Security Act FY 2002

(Dr. Chatree Banchuen)
Chairman of the Health Service Standard
and Quality Control Board

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

The National Health Security Act was established in FY2002, and with it came the implementation of the National Health Security System. The reformation of the health system in Thailand was a success and originally helped 48.3 million uninsured Thais. It has provided, and still does, access to a comprehensive range of treatments and health services while taking into account the quality and standards of these services. As well as treatment it also focuses on health promotion, disease prevention and medical rehabilitation.

The “National Health Insurance Fund” as well as various other funds are managed by the NHSOfor helping patients with HIV, AIDS and chronic renal failure, the prevention and treatment chronic diseases, health services for the dependent elderly and the procurement of medicines, medical supplies and medical equipment. There is also specific budget management to overcome barriers when accessing services such as cataract surgery, screening for vision problems, caring for patients with cardiovascular disease/stroke patients and for tuberculosis patients. All of this must be done effectively and with a limited budget.

Out-patient service uterlization rose from 102.95 million times (2.27 admissions per person per year) in FY2002 to 184.275 million admissions (3.821 admissions per person per year) in FY2017. In-patient services were used 3.80 million visits (0.085 visits per person per year) in FY2002 but rose to 6.016 million times (0.125 visits per person per year) in FY2017.

These statistics show the continuous growth in access to IP and OP services.

The success of the government's health care policy has been focusing on solving problems and overcoming barriers for those accessing health services. The cooperation of providers of medical professional services in both the public and private sectors, local government and other relevant agencies, and all sectors; has contributed to the system's development. This has made the National Health Security System run efficiently and achieve the intent of the National Health Security Act FY 2002.

In addition to achieving public healthcare access, the National Health Security Fund also helps reducing both the burden of household health expenditures and the number of households that previously endured hardship/bankruptcy due to medical expenses from 2.36% in 1988 to only 0.30% in 2016. Thus, the creation and development of a national health insurance system are an important part of creating healthy and stable households. This foundation allows the country to be stronger and flourish.

The national health insurance system in Thailand does not only have domestic recognition, but also appreciated by international organizations, such as The World Health Organization, the United Nations, and the World Bankthat how Thailand, despite being a middle income country, can forge forward and implement a National Health Security System.It has become a model for implementing a national health insurance system for countries that international organizations support and push. This has lea to other countries begining to implement their own national health insurance systems.

For the National Health Security Office, 2017 is the first year of implementation of the National Health Development Plan Phase 4. (FY 2017-2021) under the vision "Every Thai citizen in the Kingdom of Thailand is assured of access to quality care undue financial hardship". It is also the introductionary year of the National Committee on Universal Coverage Fund Allocation for hospitals affiliated with the MoPH (7x7) and the Regional Committee on Universal Coverage Fund Allocation for hospitals affiliated with the MoPH (5x5).

On this occasion, my thanks go to all the relevant sectors, the National Health Security Office and all those who support and make the system sustainable from now on. The national health insurance system is owned by all Thais.

(Dr.Sakchai Kanjanawatana)
Secretary-General
National Health Security Office

Executive Summary

The FY2017 saw the introduction and implementation of the National Health Development Plan Phase 4 (FY2017-2021). The restructuring and improvement of the health insurance system under the banner "Every Thai citizen in the Kingdom of Thailand is assured of access to quality care undue financial hardship" comes with the aim to achieve 3 CSG goals. These goals aim to bring free or low-cost public access to medical services through conscientious financial management, good governance and budget allocation which support and promote the provision of health services for the population. The cost of the universal coverage scheme (UCS) for 48.8029 million people totaled 169,752.4199 million baht (including the budget allocated by the government) which accounted for 6.21% of the national budget. The budget for public health services was 127,445.1859 million baht (4.66% of the national budget) and salaries for public service units amounting to 42,307.2340 million baht. Additionally, a management fee is paid of 1,411.57 million baht (0.83% percent of the National Health Insurance Fund) to the NHSO to cover its operating costs.

The National Health Security Office results are summarized as follows:

1. Management of the National Health Security Fund.

In FY2017 the National Health Security Fund spent a total of 127,651.3569 million baht to support and promote public health services (100.16% of its allocated budget).

2. Consumers and their right to medical services.

Services	Target (budget allocation)	Year 2017	Performance (% of target)
1. Monthly payment			
1.1 Targeted population			
1.1.1 UCS registered (millions) Comprehensive health coverage: 99.93%	48.803	48.110	98.58
1.1.2 People in health insurance system (millions) Comprehensive rights coverage: 99.95%	65.522	66.014	100.75
1.2 Use of health services			
1.2.1 Out-patient services (millions)	156.624	184.275	117.65
1.2.2 Outpatient services rates (Per admission per year)	3.209	3.821	119.06
1.2.3 In-patient services (millions)	5.849	6.016	102.84
1.2.4 Inpatient service rates (Per visit per year)	0.120	0.125	104.07
1.3 Specialized services			
1.3.1 Thrombolytic treatment for acute myocardial infarction (STEMI)	3,029	4,503	148.66

Services	Target (budget allocation)	Year 2017	Performance (% of target)
1.3.2 Thrombolytic treatment for stroke / obstructions	2,988	3,861	129.22
1.3.3 Cataract surgery	112,200	126,884	113.09
1.3.4 E(2) category drug list [1]	28,043	33,145	118.19
1.3.5 Orphan drugs	8,395	6,917	82.39
1.3.6 Cardiac surgery[2]	80	76	95.00
1.3.7 Liver transplantation[3]	179	221	123.46
1.3.8 Stem-cell transplantation	62	51	82.26
1.4 Health Promotion and Disease Prevention			
1.4.1 Influenza vaccinations for targeted populations[4]	3,064,981	2,676,035	87.31
1.4.2 Dental implants for the elderly	40,000	43,492	108.73
1.5 Medical Rehabilitation Services			
1.5.1 Assisted disability aids[5]	43,328	35,530	82.00
1.5.2 Rehabilitative care	963,038	912,324	94.73
1.6 Thai Traditional Medicine			
1.6.1 Thai traditional herbal massage	4,429,982	4,801,846	108.39
1.6.2 Prescribed herbal medicines from national essential drug list	6,271,410	7,803,442	124.43
2. Additional high cost procedures			
2.1 Antiretroviral therapy (cases)	219,400	250,722	114.28
2.2 Therapy for Chronic renal failure (cases).	52,911	53,234	100.61
2.3 Screening for Diabetes and Hypertension complications. (2nd Prevention) (cases)	2,814,300	3,811,885	135.45
2.4 Psychiatric patients receiving community services (cases)	8,300	8,300	100.00
2.5 Dependent elderly receiving care plan services. (cases) [6]	150,000	100,015	66.68

Notes:

[1] Both new and old patients.

[2] Severe heart failure patients can not be treated.

[3] In pediatric patients with liver failure from congenital biliary atresia or other causes.

[4] Information System file 43. Ministry of Public Health.

[5] In FY2016 the NHSO implemented measures to optimize the use of equipment to help people with disabilities.

[6] In FY2017, 100,015 new dependents were served by Care Plan;
In 2016, 80,826 elderly people were admitted to the former service,totaling 180,841.

3. Quality and standards of public health services.

The 12,109 registered hospitals are classified into three categories: primary care facilities, main contactoring units, and referral hospitals. There are 11,578 primary care units, 1,325 main contactoring units, and 1,332 referral hospitals. Of the latter, 988 receive medical expenses based on number of patients seen (Capitation) whereas 344 do not (Non-Capitation). Of the 92.28% (980 of 1062) hospitals being evaluated under the hospital accreditation (HA) processes 76.37% (811) were certified for HA.

The results of consumers and service providers' satisfaction rate in the National Health Security Satisfaction Survey showed that consumers had the highest satisfaction level at 95.66%. Service providers and partners were satisfied at 69.65% and 88.99% respectively.

4. Consumer rights protection

Customer service and support centers are a channel for inquiries, complaints and petitions concerning health services. Consumers and providers are accessed through the 1330 hotline, letters, fax, email, or in-person at the NHSO offices. In FY2015, the number of inquiries, complaints, petitions, etc. handled was 764,887. There were 743,456 inquiries, 4,638 complaints, 10,090 petitions and 6,703 about referral.

The number of applications filed for preliminary compensation in accordance with section 41 of the National Health Security Act in FY2017 was 823 cases. Of these 661 were compensated with the total amount of compensation paid being 160.050 million baht.

A support network has been established for the protection of both consumer and providers' rights in the national health insurance system. These include 885 Health Service Centers, 146 Public coordinationg Centers in 77 provinces, and another 114 independent complaint centers in 76 provinces; In accordance with Section 50 (5).

5. Participation from Local Administrative Organizations.

In FY 2017, 99.49 % of LAOs (7,736 out of 7,776) joined with the National Health Security Fund giving them access to the NHSO's budget of THB1,233 million for implementing health projects including health promotion and disease prevention.

6. Challenges in Universal Health Coverage System Implementation.

6.1 Access to essential services must be available to various subgroups such as the elderly, inmates, monks and those who are unaware of their rights or are not currently eligible / registered;

6.2 Service standards and quality have to maintain their improvement or, at the very least, remain stable during rises in the demand for medical services. Mechanisms to accommodate a sudden influx of patients or curtail long waiting times for treatment are important issues to tackle;

6.3 As the number of frail and elderly in Thailand grows measures are being taken to ensure a suitable safety net is in place. Most importantly, despite a limited budget, the quality of services must remain unaffected;

6.4 Disparity among government healthcare systems needs to be addressed. Integrating them so that every person receives access to the necessary healthcare service;

6.5 Consumer coverage has to provide maximum benefit regardless of the illness, be accessible at all service units while not diminishing their rights within the health insurance system;

6.6 New Technologies (New Drug Vaccines, Accounting innovation) can affect budgetary obligations; and

6.7 Hamonized the health service system with the recent national policy. For example, a family doctor support service policy.

Major achievements

1. Integrating the development of the health insurance system

The National Health Security Office was tasked, by the Prime Minister's Office order 249/2016, with the integration and redevelopment of the health insurance system. A major part of this is to increase the efficiency and reduction in disparity across the health insurance system. The development of core benefits central to health promotion, disease prevention and emergency medical services require the integration of management, and quality control systems allowing equity of health insurance cover.

1) A Compensation Management Mechanism;
2) Service Quality Auditing and Compensation;
3) Improved Information Systems (database of people's rights, Information/inquiry through call centers, transaction database, and National Clearing House health information database); and
4) A joint monitoring and evaluation mechanism.

2. Nationally available emergency medical care (Universal Coverage for Emergency Patients: UCEP)

The UCEP is a scheme to provide critically ill patients and other eligible patients access to private hospitals without being part of the healthcare system. Health care facilities will not ask about a patient's rights and no forward notice of arrival is required. Patients may also be forwarded to another hospital with more suitable facilities if needed. This scheme will work in conjunction with the National Emergency Medical Institute and other relevant agencies which as required reviews and adjusts to the compensation schemes. Instead of the DRG system, a fee schedule is used. The comprehensive listing of fee maximums reimbursing hospitals and/or other providers on a fee-for-service basis. Re-imbursement would come from a mutual fund allocated for such occasions. The patient would be treated free of charge for the first 72 hours of crisis. In addition, the database system has been updated to support this form of payment, and as a result strengthens the emergency crisis management system allowing hospitals to resolve the situation more efficiently.

3. Optimizing the management of the national health budget

National Health Security Office has been assigned to administer the budgets of various groups to help manage the national health budget more effectively, and to promote access to the services for disadvantaged groups. (Stated below)

1) Medical budget management for civil servants / local staff. The royal decree published in the Royal Gazette on 13 November 2013 requires that employees, their children, and family are entitled to receive health services under the National Health Security Act 2002.

2) Medical treatment for people with disabilities. In accordance with order No. 58/2016 of Health Service of People with Disabilities under the National Health Security Act and the Social Security Act, the NHSO has coordinated with the relevant agencies to create a social security system, a complaint service system and

implemented training programs, for the NHSO staff and service units, to improve their knowledge and understanding of the administration, management of disability, and social security services; in order to provide accurate advice to people with disabilities or people in social security.

3) Management Optimization The restructuring of finances, manpower and health information systems are required to support the reform of the public health system. To ensure the National Health Security Fund is utilized more effectively the MoPH has required:

- The National Health Security Fund's spending guidelines set by National Committee on Universal Coverage Fund Allocation for hospitals affiliated with the MoPH;
- Guidelines set for the Regional Committee on Universal Coverage Fund Allocation for hospitals affiliated with the MoPH; and
- The Monitoring and Evaluation committee on Universal Coverage Fund Management are to monitor progress in collaboration on five issues: work mechanisms, finance joint services, information management and quality of service.

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Part 1

Performance of
National Health Security System

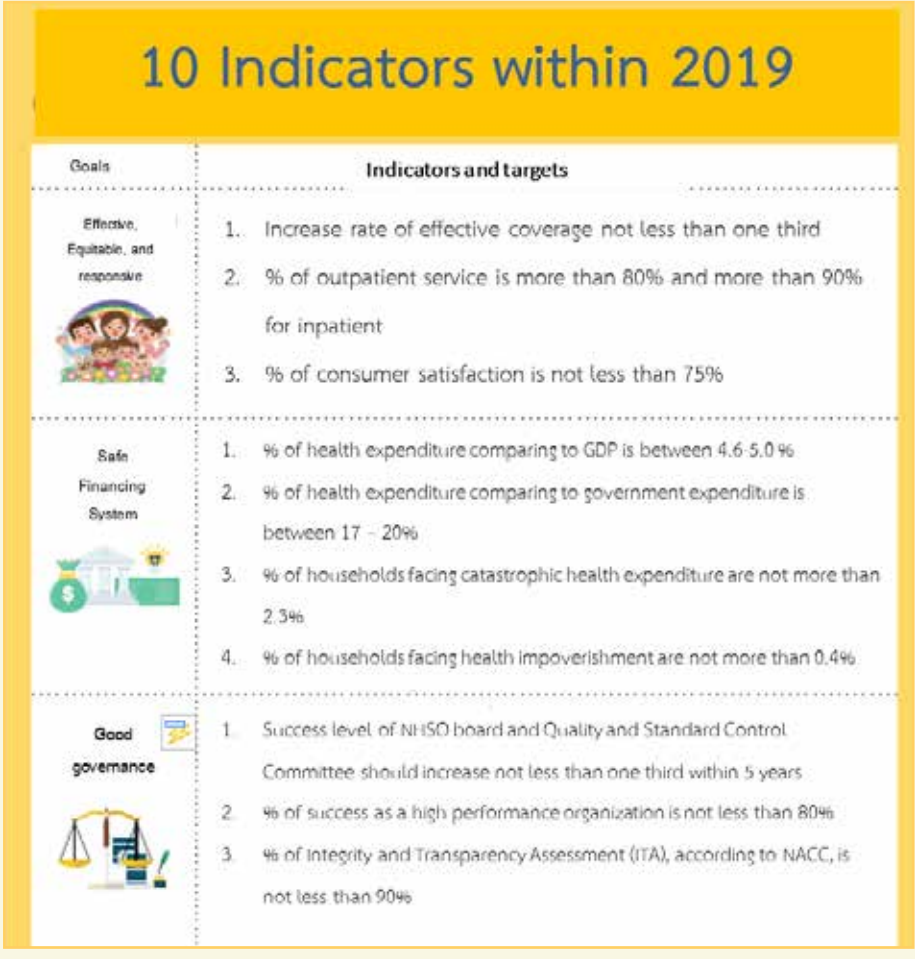


1. The Conceptual framework for creating a National health insurance system

"Creating Universal Health Coverage for the Thai people" is one of the policies the both previous and current governments have attached great importance to. Current Prime Minister Gen Prayut Chunyacha has signed an agreement with 193 other United Nations countries and become a driving force behind the Sustainable Development Goals FY2015-2030 (SDGs). "Leave No One Behind" has began very successfully and embodies Goal 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. This is a great opportunity for all sectors in the country to help Thailand achieve this goal. The National Health Development Plan Phase 4 (FY 2017-2021) is representative of a long-term mission set in the Constitution of the Kingdom of Thailand. Part of a twenty-year National Health Strategy, the 12th National Health Development Plan Phase 4 (FY2017– 2021) is under the 12th National Economic and Social Development Plan. One of its main goals is the integration of the health insurance system. This can be achieved through multisectoral participation by the public sector, private sector, academics and civil society, The Plan was approved by the National Health Security Board on November 9, 2016, as a framework to continue the development of the National Health Security System.

The National Health Security System's development has continued for 15 years. *Phase 1* focused on providing health coverage to Thai people through the mechanisms of participation, creation of knowledge, and the understanding of rights and duties. This ensured hospitals and health service personnel had the support to provide easy-to-access and equitable services. *Phase 2* saw the focus shift more towards the importance of budget management, greater co-operation and involvement by all stakeholders, the protection of rights and a strengthening of the internal management system in the National Health Security Office. *Phase 3* had the sustainability of health insurance at the forefront of its primary concerns. Ensuring every aspect of coverage was secure, through sector participation and ownership, enabling consistency in the health insurance system and with an emphasis on the development of the primary care system *Phase 4* focuses on achieving a set of three goals through five strategies, as shown below (Diagram 1).

Diagram 1 Strategic objectives for developing the National Health Development Plan Phase 4, FY 2017-2021



2. Health Financing and Budgeting for Universal Health Coverage

2.1 Health Finance

The introduction of national health insurance schemes brings some obstacles and problems. The government has to take responsibility for health expenditures. The health care system funds must be well managed, otherwise it can impact the coverage and services available by the system. To expand public coverage and services the government has toincrease the budget and/or collaborate with the private sector. To this end, the National Health Account (NHA), which is the index of the resources used by both the public and private sectors for the health of the population, has been established. It indicates the burden of household and, government spending, including the proportion of health expenditure per capita or health expenditure per national income.

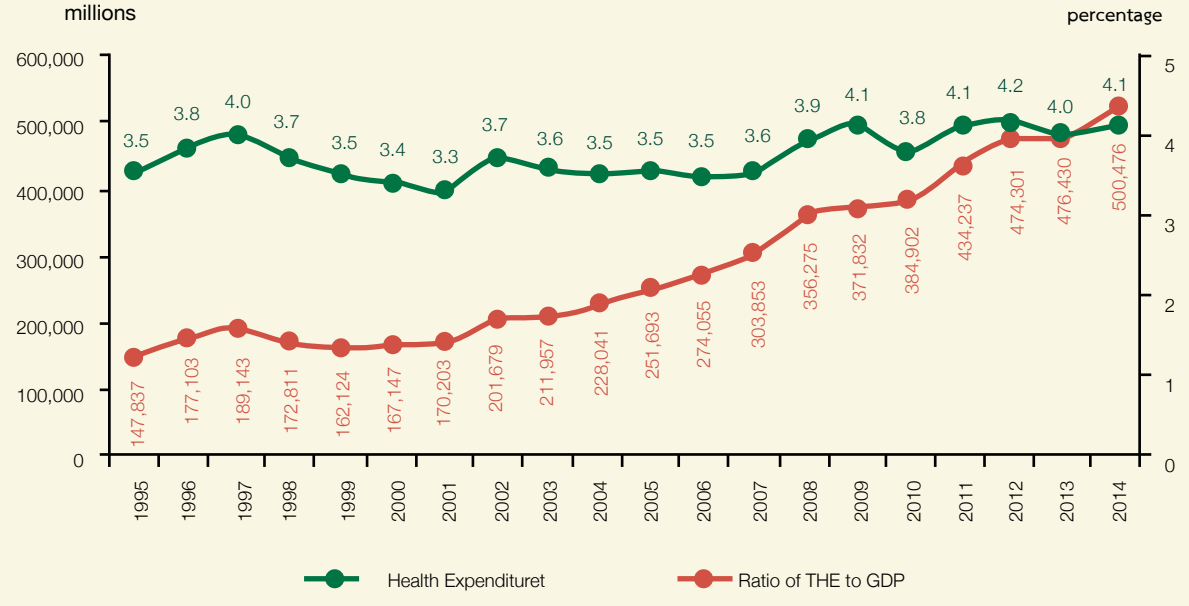
Health financing policies are important mechanisms, for universal health coverage (UHC) implementation, to protect households from financial risk. The government is an important part of the UHC, so careful system management is needed for sustainable implementation.

Total health expenditure (THE) increased from THB147,837 million in FY1995 to THB500,476 million in FY2014. The proportion of total health expenditure (THE) relative to the Gross Domestic Product (GDP) was 3.5% in 1995, 4.0% in 1997 (the year of the "Tom Yum goong" crisis), the proportion declined to 3.3% in the following year. Since FY2001, the growth rate of health expenditure has been lower than the growth rate of the overall economy. However, this proportion increased to 3.7% in FY2002 but slightly decreased in FY2003-2007 to 3.5% and then increased again to 4.1% in FY2014. (Figure 1)

Health expenditure per capita during the period FY1995-2014 both fluctuated. The annual health expenditure increased from THB2, 486 in 1995 to THB3,110 in FY 1997, and then decreased due to the country's economic crisis. After 2002, with the introduction of Thailand's national health insurance scheme, health expenditure per person per year had increased to THB7, 966 by 2014. (Figure 2)

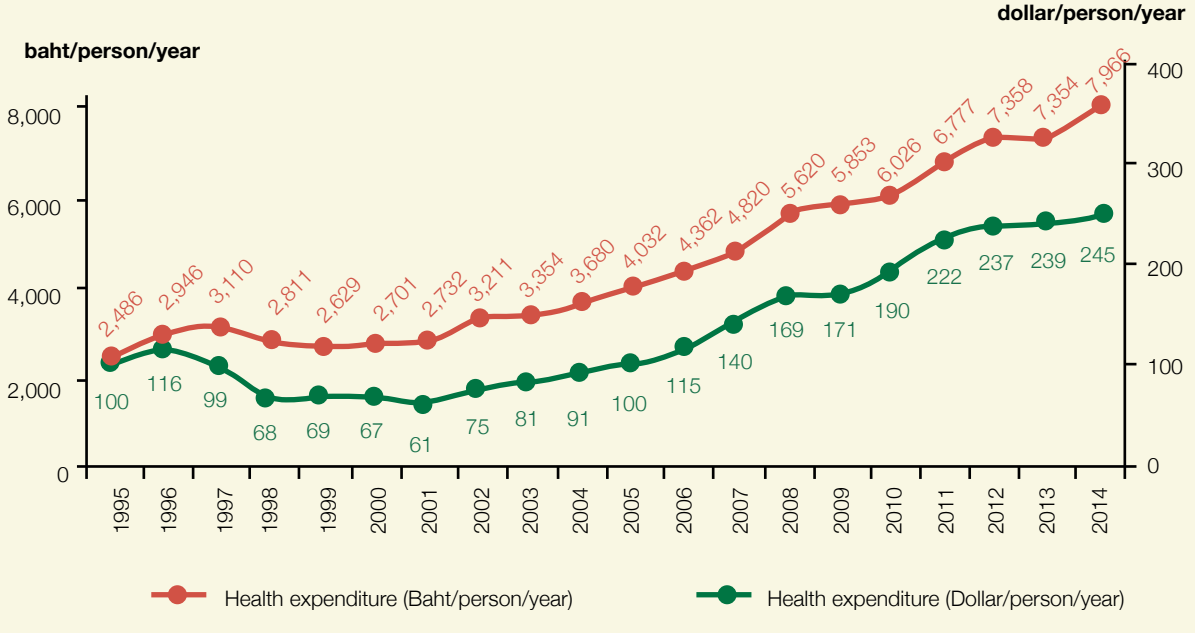
Total health expenditure is divided into public and private sectors. The proportion of public health expenditure increased from 47% in FY1995 to 77% in FY2014. (Figure 3)

Figure 1 Ratio of Total Health Expenditure (THE) vs Gross Domestic Product (GDP) 1995-2014.



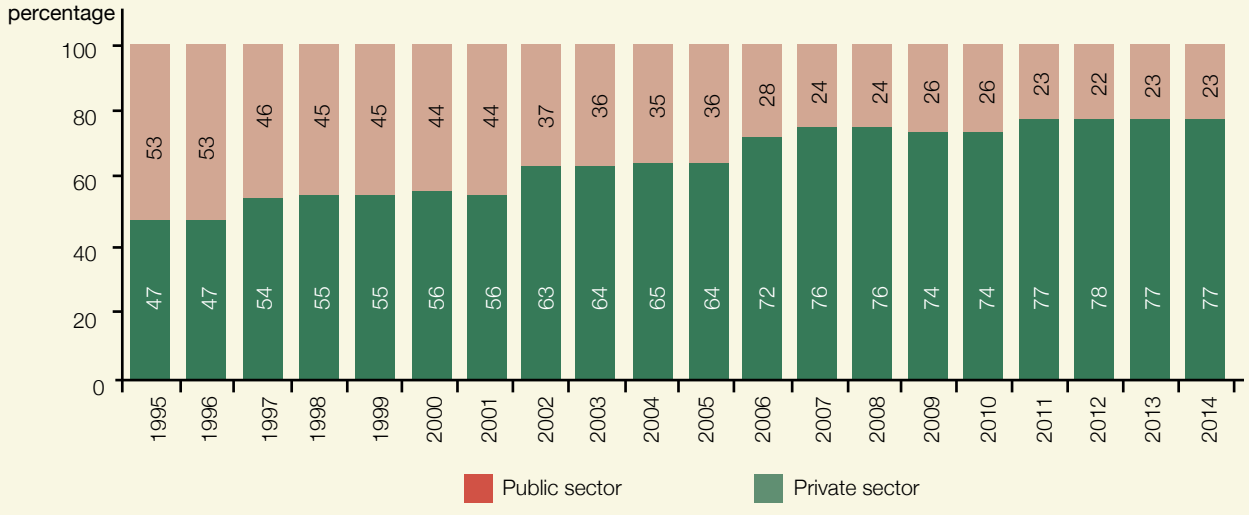
Source: *World Health Organization: Global Health Expenditure Database*
http://apps.who.int/nha/database/ViewData/Indicators/en [access 16 November 2017]

Figure 2 Total Health Expenditure of Thai Population FY 1995-2014



Source: *FY 2014 National Health Accounts, IHPP, Ministry of Public Health*

Figure 3 Comparison of health expenditure between the public and private sectors, FY 1995-2014.

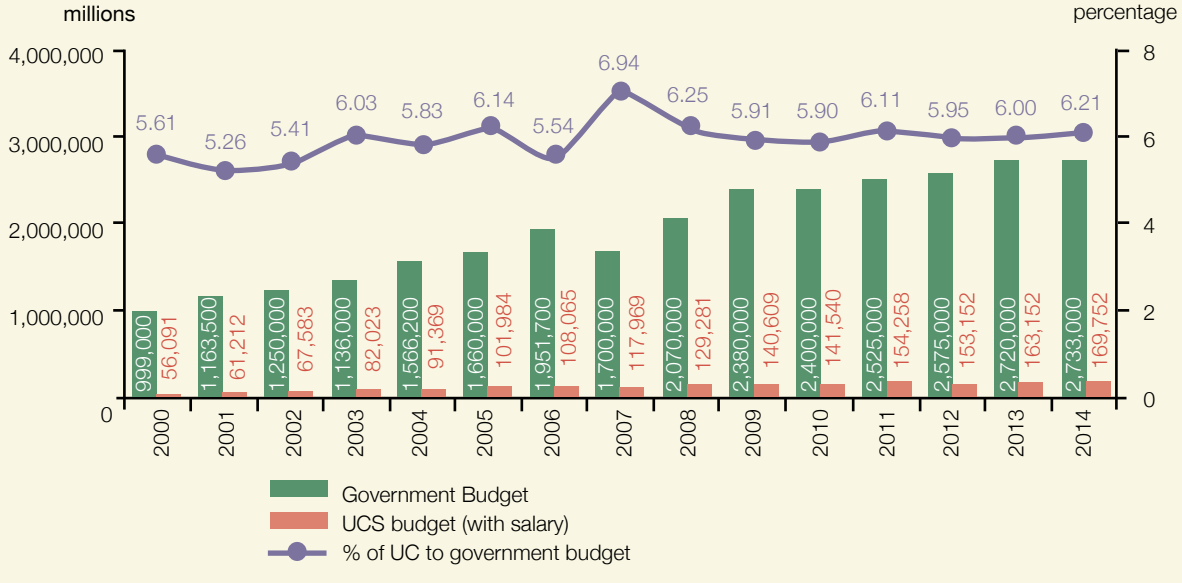


Source: *FY 2014 National Health Accounts, IHPP, Ministry of Public Health*

2.2 The National Health Security Fund

The budget of the National Health Security Fund, when compared to the GDP, has remainded stable between FY2003 and FY2017. It has fluxuated slightly between 5.26% and 6.94% and was at its highest level of 6.94% in FY2010 (Figure 4).

Figure 4 National Health Security Fund budget compared with GDP FY 2003-2017.

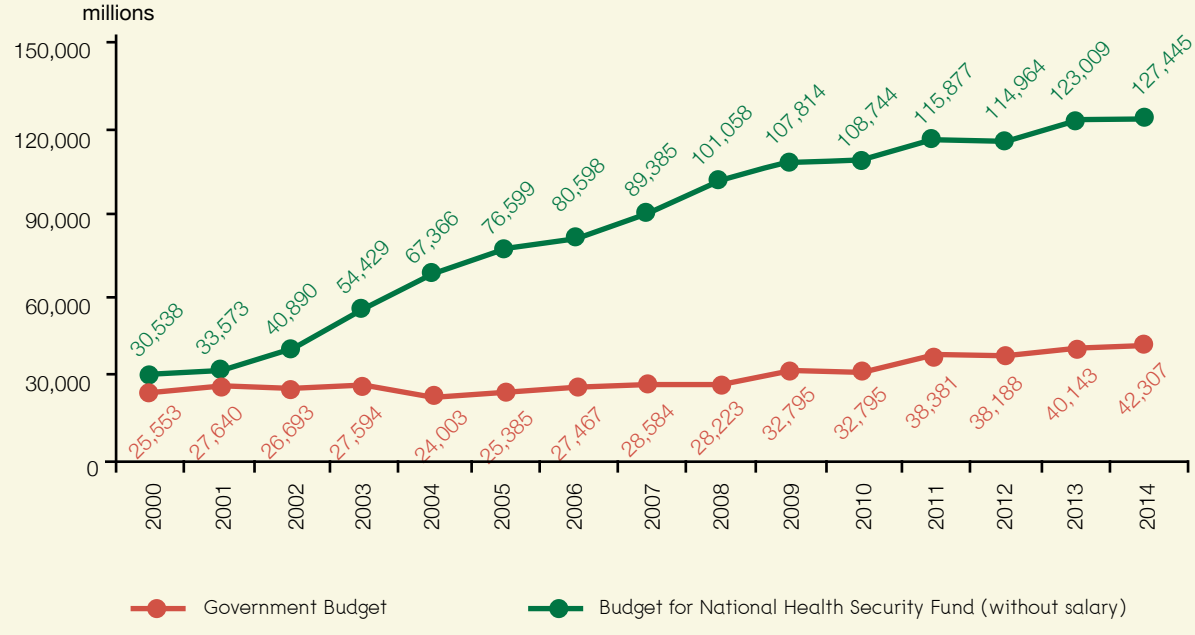


Source: *National Health Security Fund FY 2003-2017. NHSO Plan and Budget Office.*

note: *The Fund received additional appropriations in 2003-2006, 2017 amounting to Baht 5,000 million, Baht 3,845.33 million, Baht 4,993.33 million and Baht 14,761.83 million, respectively, and 2017 approved by the Cabinet on April 18, 2017. Central budget, emergency or necessity reserve to compensate for public health services of the Ministry of Public Health 3,979.41 million baht (excluding medical expenses of 1,000 million baht)*

The National Health Security Fund budget consists of two parts: salaries for public service units in the National Health Security System and the National Health Security Fund. The salaries in FY2017 amounted to THB42,307 million, an increase of 1.78 times from FY2003. The Fund for FY2017 was THB127,445 million, an increase of 4.47 times from FY2003 (Figure 5).

Figure 5 National Health Security Fund budget FY 2003-2017



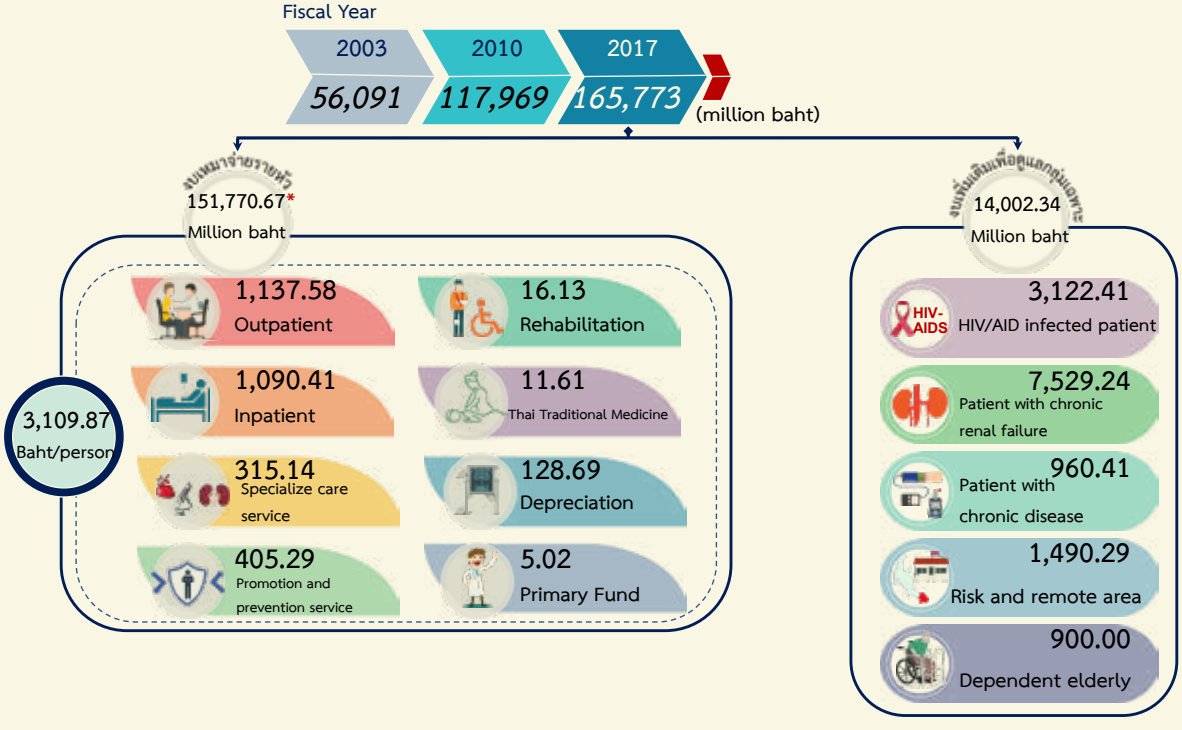
Source: *National Health Security Fund FY 2003-2017. NHSO Plan and Budget Office.*

note:
1.) Deduction of salary means the calculation of salaries of government service units In the National Health Security System What is the payroll of personnel? The salary deduction period is reviewed as follows:
· Service Department, in 2004 and 2007
· Other state service units outside of the Mosque in 2004 and 2011.
2.) FY 2003-2006 were allocated additional budgets of Baht 5,000 million, Baht 3,845.33 million, Baht 4,993.33 million and Baht 14,761.83 million, respectively, and in 2017 amounting to Baht 3,979.41 million (pursuant to the Cabinet's resolution on April 18, 2017).

Government allocations for the National Health Secuity Fund have increased from THB1,202.40 per eligible person in FY2002 to THB3,109.87 in FY2017 (2.6 times higher). This has allowed extra benefits and support for health services and therefore providing better coverage for people. In FY 2006, 2009, 2010 and 2016, the state allocated additional funds to provide services for people living with HIV and AIDS, chronic kidney failure, control services for the prevention and treatment of chronic illnesses such as Diabetes and Hypertension, Mental health in the community and the services for the dependant elderly.

In FY 2017 the NHSO received a total of THB165,773.01 million from the National Health Security Fund (including THB42,307.23 million in public service payrolls) for 48.80 million people (a rate of THB 3,109.87 per person) covering 6 types of services (Diagram 2).

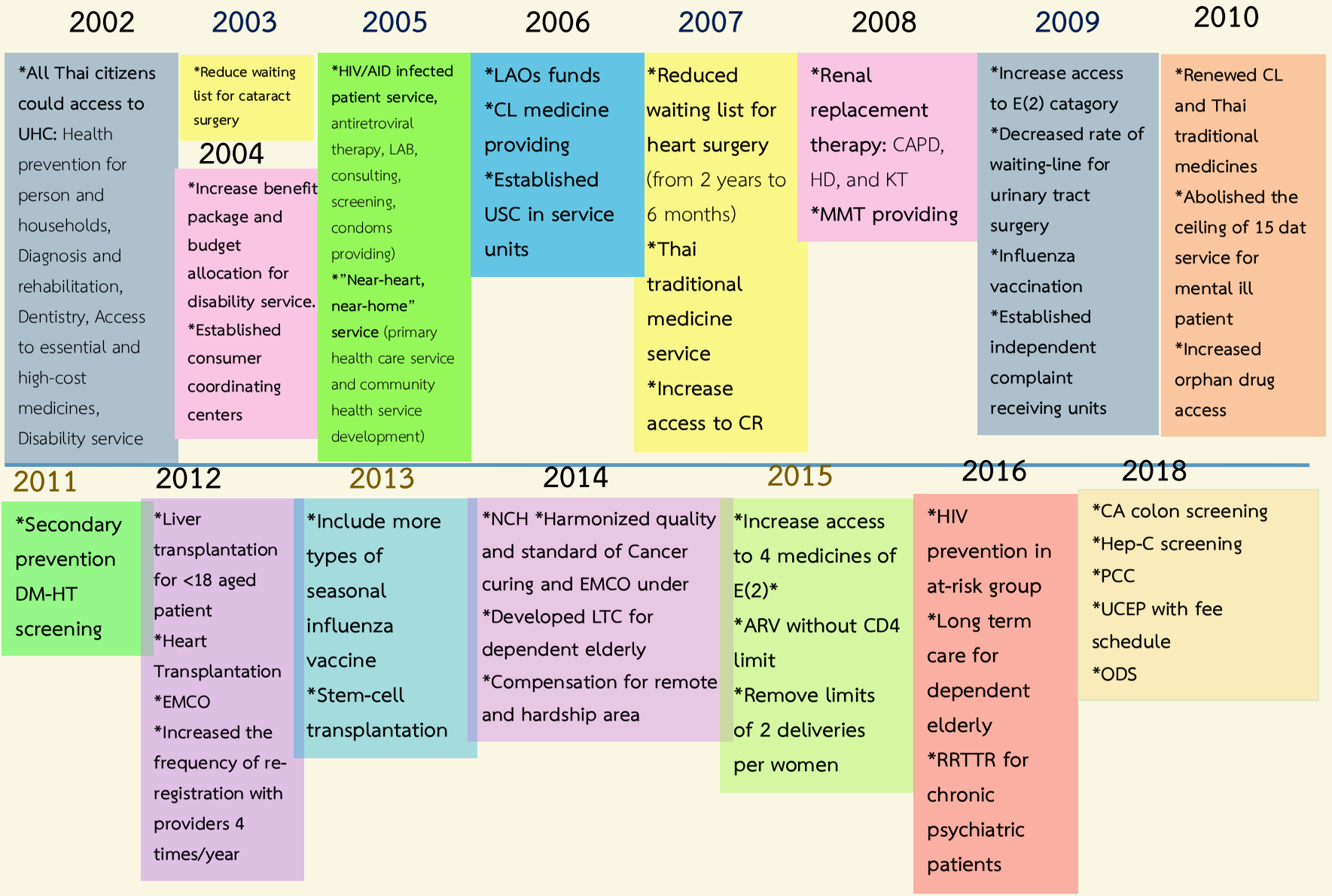
Diagram 2 The National Health Security Fund classified by category FY 2017



Source: *National Health Security Commission Guidelines for the implementation and management of the National Health Security Fund. For those who have the right to health insurance, National Fiscal Year 2017.*

Note: *The gross amount of Baht 151,770.67 million (excluding the central budget of Baht 3,979.41 million) was the sum of government salaries of Baht 42,307.23 million.*

Development and management of benefit packages to increase access to health care services.



*Note** *Four medicines are Trastuzumab, Peginterferon, Nilotinib, and Dasatinib*

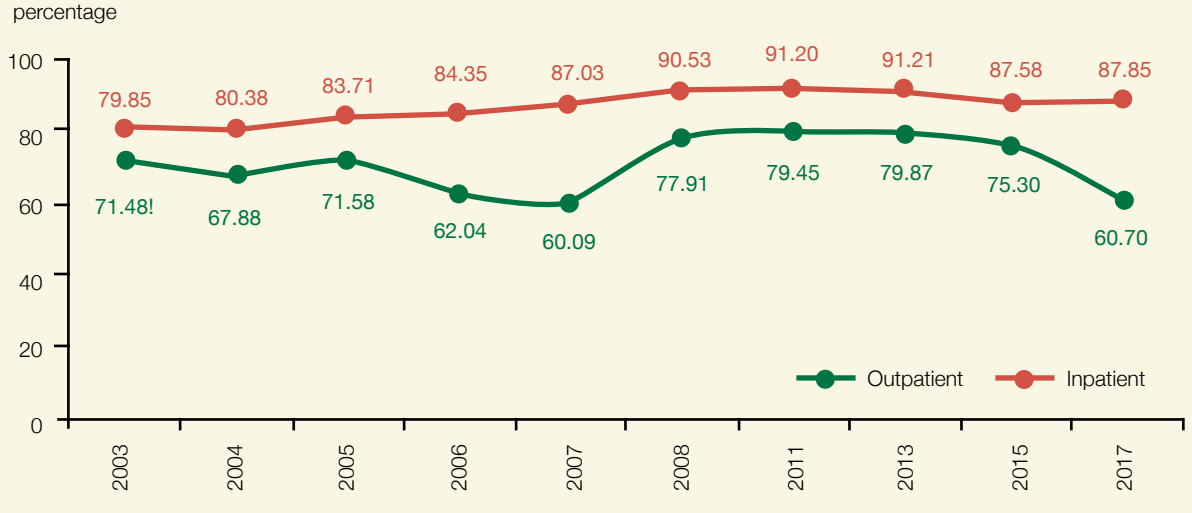
3. Equity in health service accessibility and household expenditure for health care

3.1 Equity in health service accessibility

Access rate of health services: As can be seen in the data for FY 2017 by the Health and Welfare Survey National Statistical Office, the utilization rate for outpatient services increased to 79.45% in FY 2011. The number of inpatients rose to a high of 91.21% in FY 2013 but fell to 87.85% in 2017 (Figure 6). The top three reasons for not using outpatient services were "long waiting time" (41.81%), "office hours prohibited seeking care" (14.4%) and "symptoms were too minor" (10.47%). For inpatients the reasons were "long waiting time" (21.83%), "service not covered by my benefit package" (20.77%) and "accidents and emergency related" (19.76%), respectively (Figure 7).

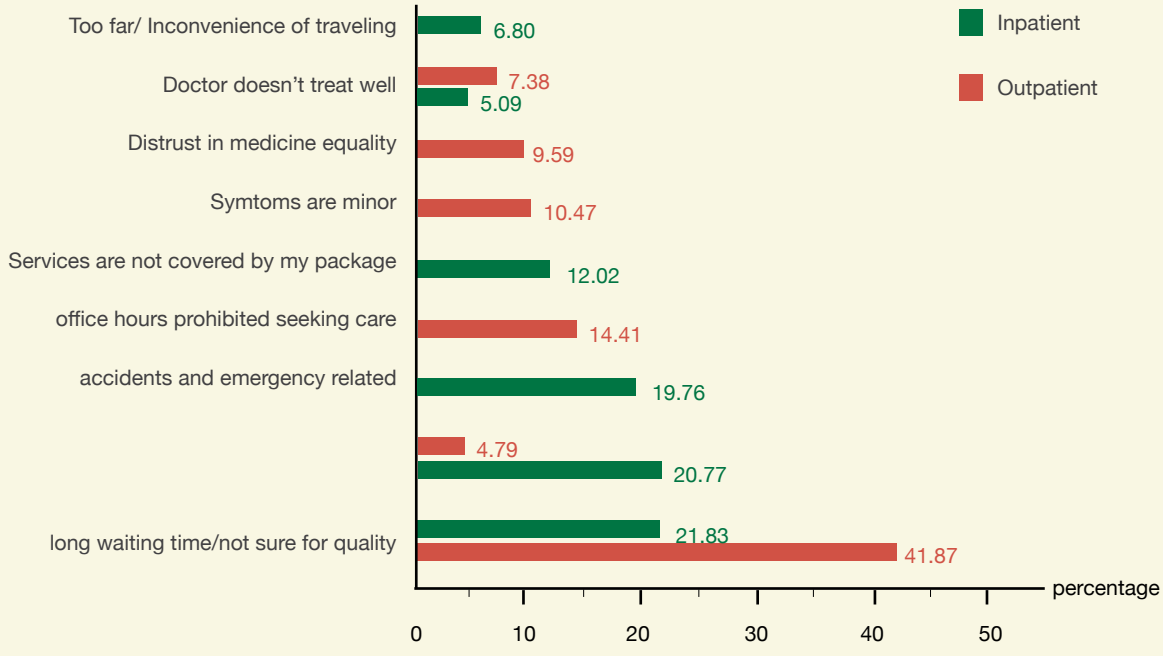
According to the same survey, the alternative options consumers chose when they were sick and did not admit themselves to hospital were "chose to buy their own medication / go to traditional healers / Thai masseuses" (17.65%), "used private hospitals" (16.90%) and "used community hospitals" (15.01%) (Figure 8).

Figure 6 Utilization of out-patient services and in-patient services, FY 2003-2017



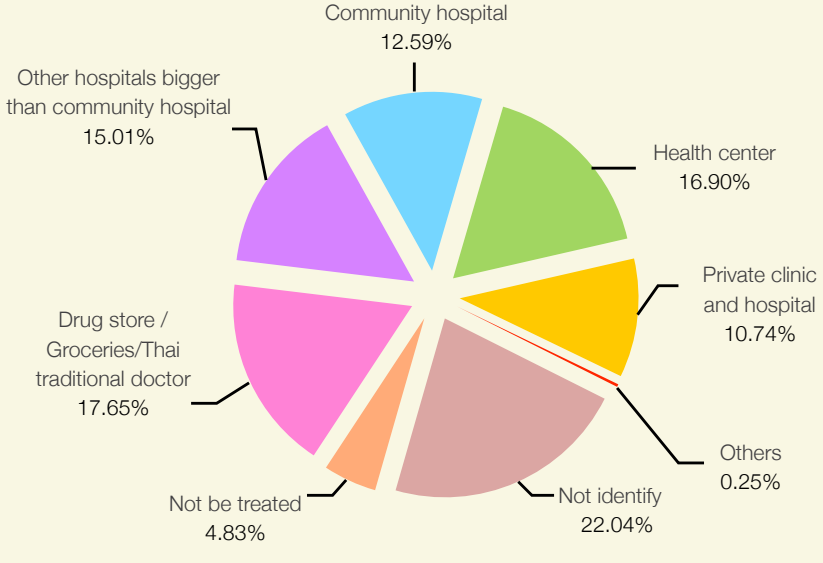
Source: *Health and Welfare Survey National Statistical Office, FY FY 2003-2017, Analyzed by Dr.Supol Limpwattananon*
Note: *after 2007, the National Statistical Office Every 2 years*

Figure 7 Reasons for not utilizing a UCS benefit package when accessing health services, FY 2017



Source: *Health and Welfare Survey National Bureau of Statistics, FY2017, analyzed by the Information and Health Information Agency, NHSO.*

Figure 8 Choices consumers made when they were sick and did not admit themselves to hospital, FY 2017

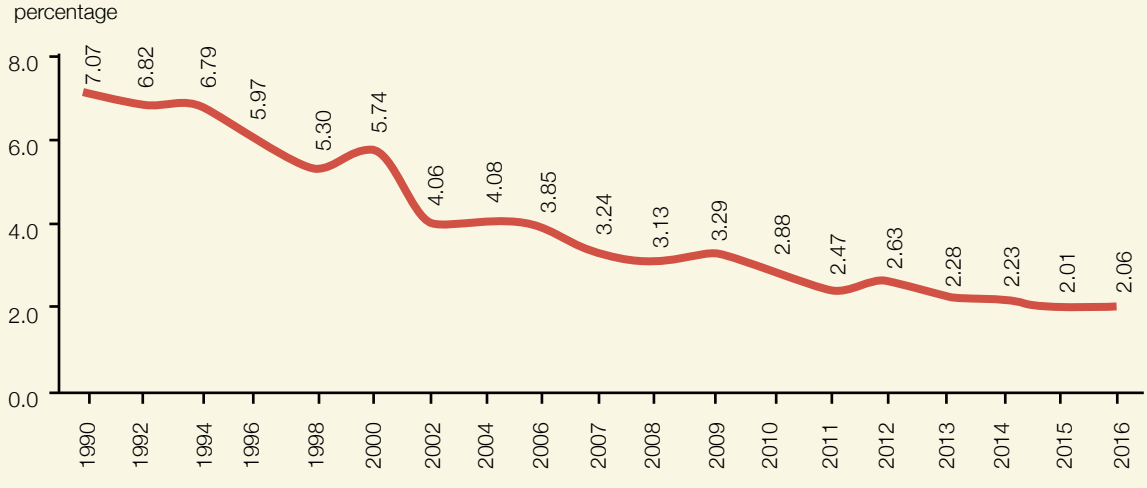


Source: *Health and Welfare Survey National Bureau of Statistics, FY2017, analyzed by the Information and Health Information Agency, NHSO.*

3.2 The burden of household health expenditures

Based on the committee's recommendations, the National Health Security System mobilizes resources for sustainability[1] set for FY2022. Incidences of household bankruptcy from medical expenses should not exceed the current level (FY2013) of 2.3% of all households. Households that suffer hardship after the payment of medical expenses should not be more than the current level (FY2013) of 0.47%. These are sustainable fiscal health indicators showing that, in the long run, governments and households should invest in healthcare. Reducing the burden of household health expenditures as such prevening households from falling into poverty or experiencing financial crisis due to medical expenses reflects the success of the national health insurance system. The National Statistical Office, based on socio-economic surveys of 10% of all households, found that households that suffered financial crisis from medical expenses declined from 7.07% in FY1990 to 2.06% in FY2016 (Figure 9). In addition, households that fell under the poverty line, after the payment of medical expenses, decreased from 2.34% in FY1990 to 0.30% in FY2016 (Figure 10).

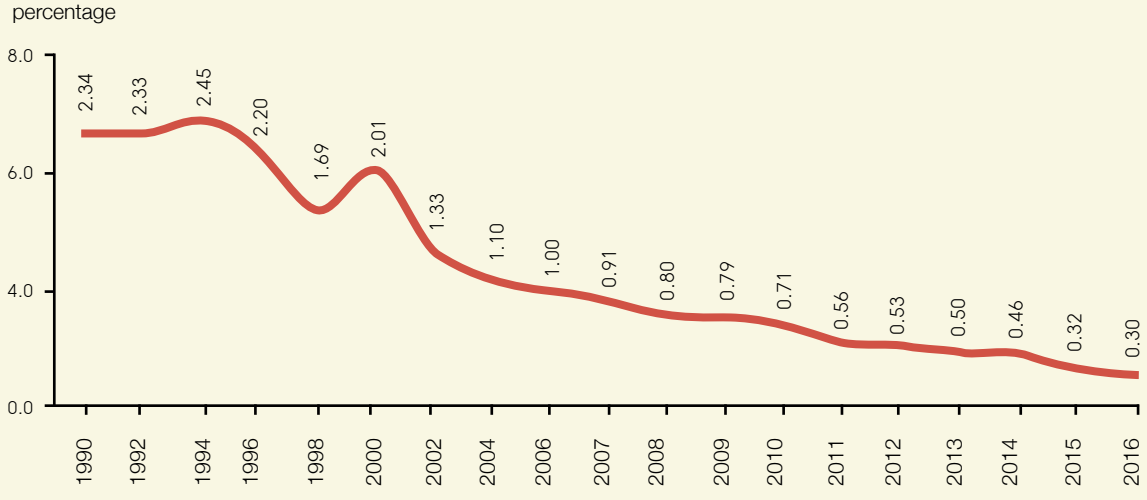
Figure 9 Percentage of households experiencing financial crisis due to medical expenses. FY 1990-2016



Source: *Household Socio-Economic Survey National Statistical Office, FY FY 1990-2016, Analyzed by Dr.Supol Limpwattananon*
Note: *1) Calculated from households with household health expenditures of more than 10% of all household expenditures.*
2) After FY 1990 National Statistical Office A survey of household socioeconomic status (Household spending) every year.

[1] Ordinance of the Ministry of Public Health No. 1020/2015 dated June 24, 2015. Appointment of a committee to develop guidelines for mobilization of resources for the sustainability of the national health insurance system, according to the order of the Prime Minister dated April 20, 2015, to study and synthesize proposals for sustainable resource mobilization and resource management in an effective and equitable health insurance system. Mr. Ammar Siam Vala is the consultant. And Mr. Suwit (Source: The Committee on Guidelines for Raising Resources for the Sustainability of National Health Security System. Health Financing Proposals for Sustainability of National Health Security System, Targets, Indicators and Goals, Nonthaburi; Pages 1-3.)

Figure 10 Percentage of households experiencing impoverishment due to medical expenses. FY 1990-2016



Source: *Household Socio-Economic Survey National Statistical Office, FY FY 1990-2016, Analyzed by Dr.Supol Limpwattananon*

Note:
1) *Calculated from households falling under the poverty line after the payment of medical expenses.*
2) *recalculated to current use the poverty line from the survey each year of the Office of the National Economic and Social Development Board*
3) *After FY 2006, National Statistical Office A survey of household socioeconomic status (Household spending) every year*

4. National Health Security System performance

4.1 Achieving the goals of the National Health Development Plan Phase 4 (FY 2017-2021)

FY2017 was the first year of implementation of the National Health Development Plan Phase 4 which encompasses three goals:

1. Effective, equitable and responsive Coverage;

2. Sustainability finance and fiscal stability; and

3. Good governance.

There are 10 Indicators that summarize the results of operations, as follows (Table 1)

Table 1 Performance of 10 objectives as per the National Health Development Plan Phase 4. FY 2017

Objective	Indicators	Goal	Portfolio
1. Effective Equitable & Responsive Coverage) 	1. (Effective Coverage: EC)	Make a proposal, assessment methods, and results to review as a guideline	Proposal on how to assess the effectiveness of health insurance coverage 10 diseases [1]
	2. Compliance rate: IP	>= % 87.58	% 87.85
	3. Satisfaction of service recipients. and service providers	>= % 90 >= % 75	% 95.66 % 69.65
2. (SAFE: Financing System) 	4. Total Health Expenditure: THE compare with Gross Domestic Product: GDP	% 4.6-5	% 4.12 [2]
	5. General Government Health Expenditure: GGHE) compare to General Government Expenditure: GGE	%17-20	% 13.3 [2]
	6. Households financial crisis Of medical expenses / (Catastrophic health expenditure)	<= % 2.3	% 2.06 [3]
	7. Households that have become poor after paying for medical treatment. (Health impoverishment)	<= % 0.47	% 0.30 [3]

Objective	Indicators	Goal	Portfolio
3. Good Governance 	8. Joint commitment and responsibility of the National Health Insurance Board and the Quality Control Board and standard service units	Conclusions / Guidelines on Commitment and Accountability of the Main Boards and the Boards of Control.	Conclusions / Approaches for the years 2018 – 2021approved.
	9. Being a high performance organization	The evaluation guidelines were reviewed. It has been approved by the Executive Committee and communicated to the staff.	Study of quality criteria for public administration / review / integration of the criteria for the operation of the office.
	10. Moral and transparency in the implementation of state appraisal standards. (ITA) [4]	>= % 85	% 92.7

Note: [1] *Resolutions of the Sub-Committee on the Determination of Types and Scope of Health Care Services for Health and Living No. 9/2017 on 12 Dec 2017.Which are health promotion, Disease prevention, Palliative care in 10 Diseases which are tuberculosis (TB), (HIV/AIDs), (CA cervix), diabetes (DM), High Blood Pressure (HT), Ischemic Heart Disease, Stroke,Hypothyroid, Schizophrenia, Depression, Bipolar Disorder,Group of Long-term antipsychotic drugs therapy.*

[2] *World Health Organization. Global Health Expenditure Data base, Information Year 2014*

[3] *Analysis of household socio-economic data National Statistical Office, 2016*

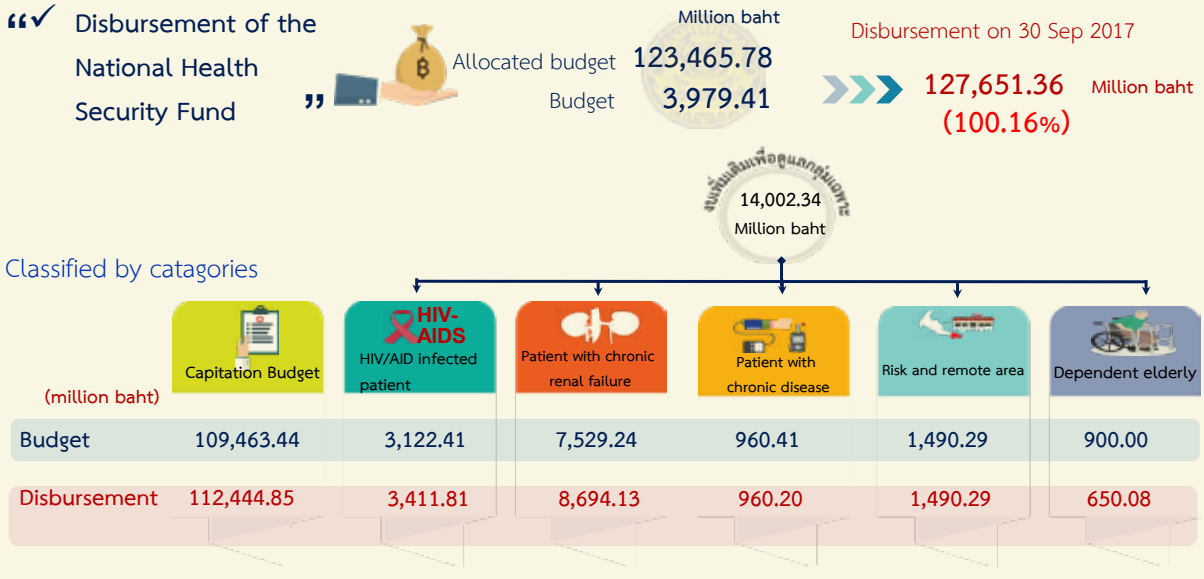
[4] *ITA Assessment 8 issues 1) Procurement 2) Compliance Standards 3) Fairness / Non-Discrimination 4) Stakeholder Engagement 5) Data Access 6) Complaints System 7) And 8) the implementation of anti-corruption.*

4.2. National Health Security Fund Administration Report

4.2.1 Disbursement of the National Health Security Fund

In FY 2017, the National Health Security Fund spent THB127,651.3569 million to support and promote the provision of public health services; the equivalent of 103.39% of its allocated budget (Diagram 3).

Diagram 3 Disbursement of the National Health Security Fund classified by category FY 2017.



Source: *National Health Security Commission Notification on Criteria for the Implementation and Management of National Health Security Fund For those who have the right to health insurance, National Fiscal Year 2017.*
Financial Report of the National Health Fund, FY 2017. As of September 30, 2017, the NHSO

Note: *budget paid more than budget The service exceeds the target. In the statement of the contract. Services for HIV infected people. The fund was allocated additional budget of 3,979.41 million baht in accordance with Cabinet's resolution on 18 April 2017 for emergency or necessary payment to compensate for the health services of the service units under the Ministry of Public Health.*

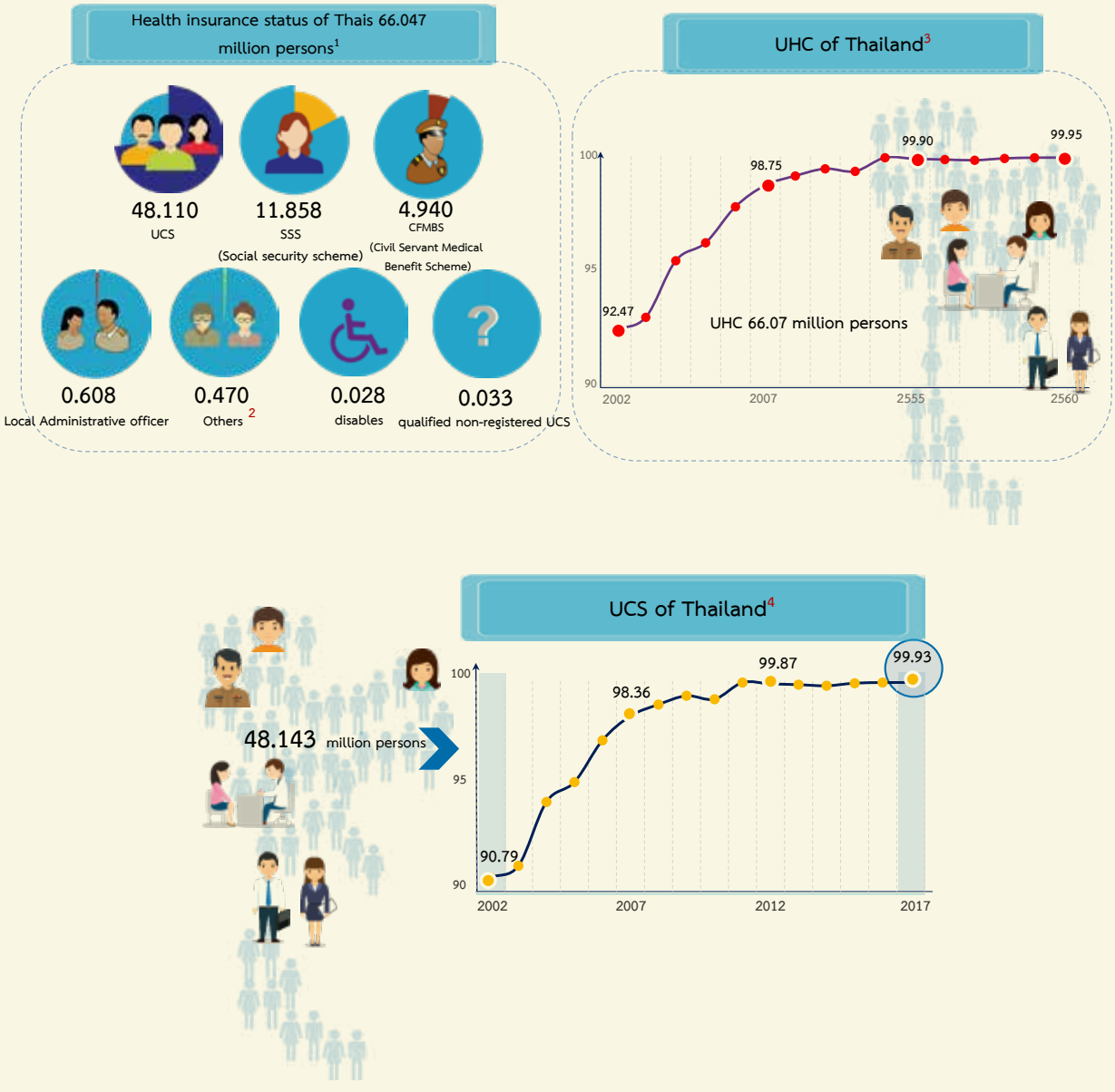
4.2.2 Health Fund administration and allocation

1) Coverage of the health insurance system

In FY 2017 coverage by the National Health Insurance System consists of those under Uniersal Coverage Scheme, Social Security Scheme, Civil Servant Scheme and other groups whose medical benefits are provided by the state, registered in the health insurance system. In total, 66.014 million (99.95%) of 66.047 million people are covered by Universal Health Coverage (UHC) and coverage continues to increase. Of the population eligible for National Health Security (UC or Gold Card) 48.143 million of 48.110 million people registered. This represents a national coverage of 99.93% to the Universal Coverage Scheme (UCS). There are 0.033 million unregistered people, not including those people awaiting claim confirmation, 0.112 million Thai people abroad, immigrants and foreigners who buy health insurance (Diagram 4).

Compairing proportions of population utilizing UCS or other government health insurance schemes, classified by gender and age group, findings showed that most of the UCS patients were children and elderly (0-19 year-old and people 60 and over) while most of the other schemes were being utilized by the working aged group 25-49 year olds. Government and civil servants' rights are distributed in all age groups, especially 40 year old (Diagram 5).

Diagram 4 The Population of Thailand classified by health insurance status, FY 2017



Source: *NHSO Registration Office, Data as of September 30, 2017, processed as of October 15, 2017.*

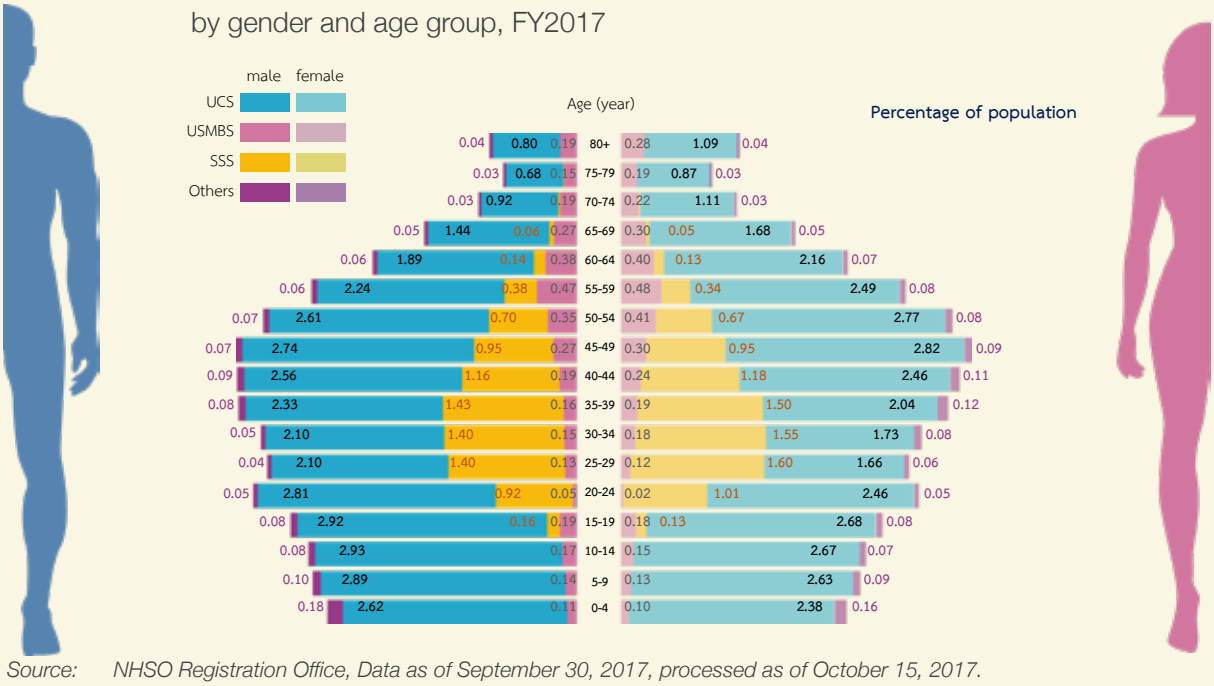
note: *1. means all Thai population Not counting people waiting for confirmation, Thais in foreign countries. And alien*

2. refers to private teachers and individuals with status and rights problems.

3. means the percentage of coverage in the Universal Health Coverage (UHC) = $\frac{Reg.\ UC\ Right + Other\ Health\ Ins.\ Rights + Disability\ status \times 100}{Thai\ population}$

4 refers to the percentage of Universal Coverage Scheme (UCS) = $\frac{UC\ registered \times 100}{UC\ registered + unregistered}$

Diagram 5 Proportions of the population using UCS or other government health schemes classified by gender and age group, FY2017

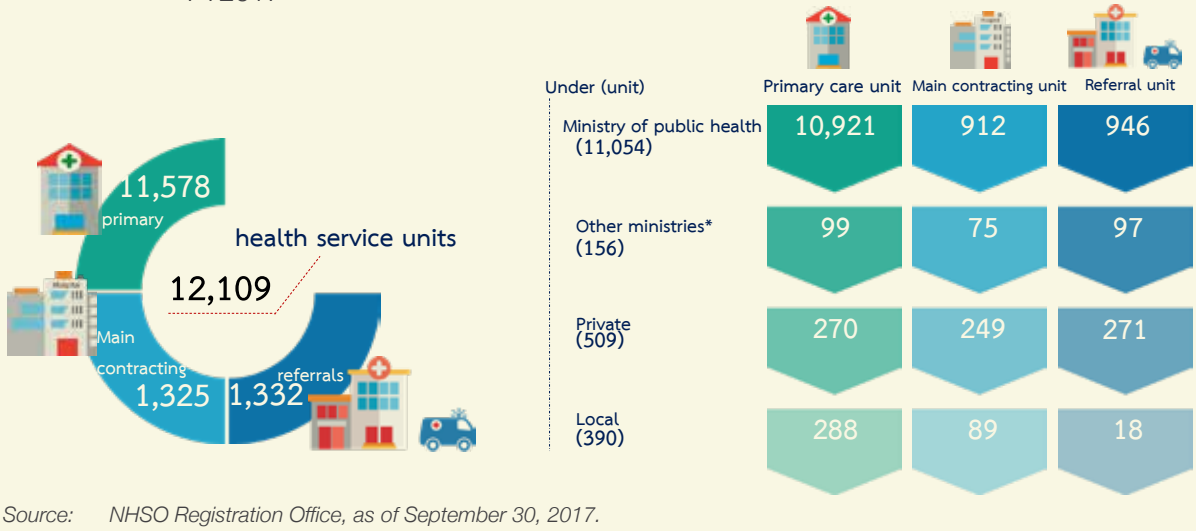


Source: *NHSO Registration Office, Data as of September 30, 2017, processed as of October 15, 2017.*

2) National Health Security System service unit types

In FY 2017, there were three types of registered service units in the national health insurance system. There were 11,578 primary care units (94.33% under the MoPH). 1,325 main contracting unit (68.83% under the MoPH, 18.79% were private units) and 1,332 referral units (71.02% under the MoPH, 20.35% were non-governmental units). Of the referral units, 988 units received medical fees paid head (Capitation) while 344 were paid according to procedures used to treat a patient (Non-Capitation) (Diagram 6).

Diagram 6 Types of units registered in the national health insurance system classified by category FY2017



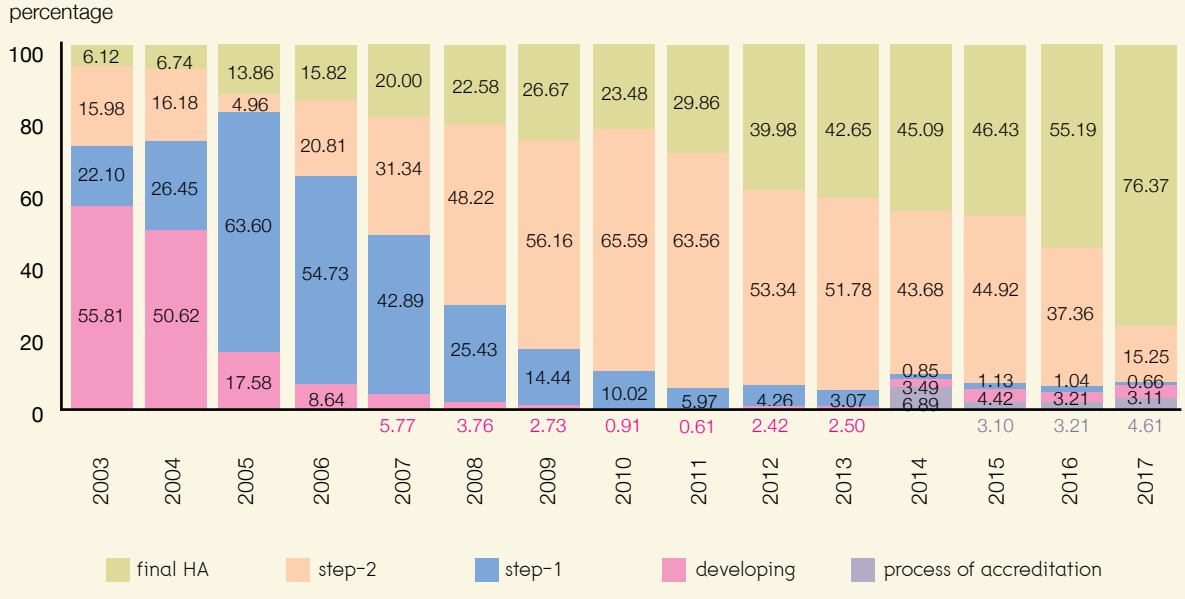
Source: *NHSO Registration Office, as of September 30, 2017.*
note: *1) * Other ministries include Defense Education Interior*
2) Service units can register more than one type.

3) Quality Audit and Hospital Accreditation

The NHSO has continued to promote quality and improvement for its main contracting units and referral hospitals by supporting hospital accreditation (HA) processes. During FY 2017 of the 1062 referrals received for quality assurance 990 HAs (92.28%) were given. Of these ม811 units (76.37%) have been certified at step-1; 162 units (15.25%) were given step-2 quality certification; and 7 units (0.66%) received their first quality certification. In addition, there were 33 (3.11%) service units under development and 49 (4.61%) in the process of accreditation (Figure 11). The number of accredited main contracting units and referral hospitals continues to increase.

In FY2017, region 11 Surat Thani had the highest proportion of service units receiving the highest quality accreditation (88.16%), followed by region 4 Saraburi (86.21%) and region 6 Rayong (83.02%), respectively (Figure 12)

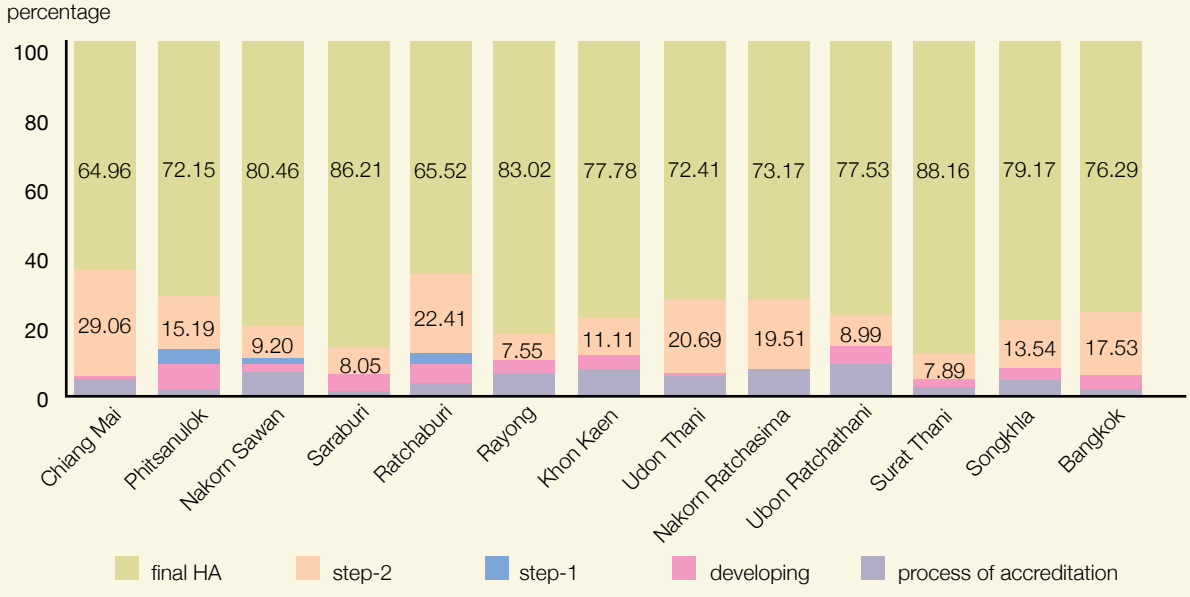
Figure 11 Percentage of UCS registered hospitals classified by level of accreditation 2003-2017



Source: *Institute for Hospital Quality Assurance (RTD) Data as of September 30, 2017. Analysis by Bureau of Standards and Quality Support.*

Note: *status of accreditation quality process of sanatorium from institute of quality accreditation of hospital (Sor. Sor.) 30th September 2017 registration status of service From the NHSO Registration Office. As of 31 August 2017.*

Figure 12 UCS registered hospitals percentages classified by level of accreditation and by NHSO Region, FY2017



Source: *Institute for Hospital Quality Assurance (RTD) Data as of September 30, 2017. Analysis by Bureau of Standards and Quality Support.*

4) Service unit assessments

Hospital assessments help to guarantee acceptable standards of quality from health care units. Evaluations are divided into categories based on service unit type. In FY2017, the number of service units meeting the required criteria (either conditionally or unconditionally) was 94.67%, 97.53% and 92.48%, respectively (Table 2). When affiliation is considered, primary care units and main contractor hospitals under the MoPH and other government affiliations passed more than other types of affiliations. (Figure 13)

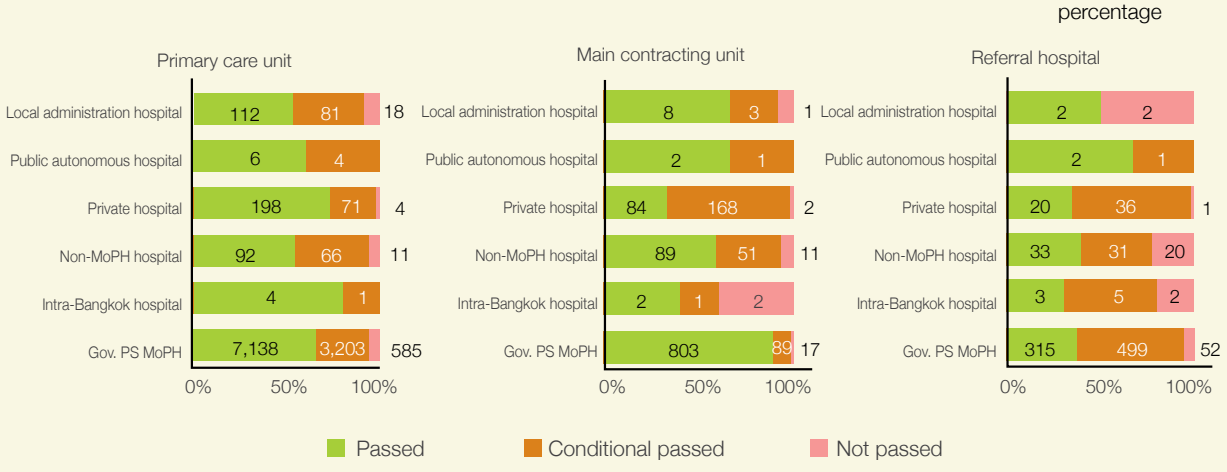
According to the NHSO, the proportion of primary care units that passed the registration criteria was the highest in Udon Thani (81.28%). Service units that met most of the registration criteria were in regions 9 Nakhon Ratchasima, 7 Khon Kaen, 8 Udon Thani and 10 Ubon Ratchathani (90.91%-93.64%) (Figure 14).

Table 2 Service unit assessments classified by type, FY2017

Registration Type / Assessment	Primary Care Unit		Main contracting units		Referral hospitals	
	Number	%	Number	%	Number	%
Passed	7,550	65.12	988	74.06	375	36.62
Passed with condition	3,426	29.55	313	23.46	572	55.86
Not passed	618	5.33	33	2.47	77	7.52
Total	11,594	100.00	1,334	100.00	1,024	100.00

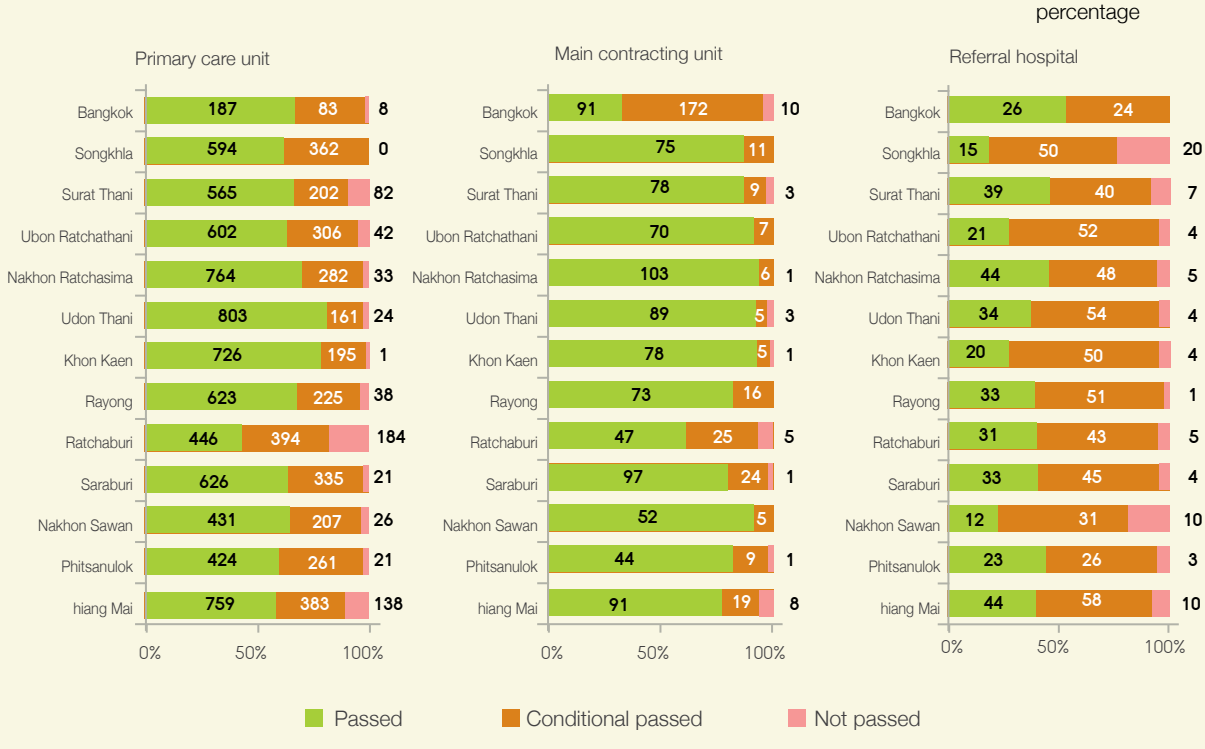
Source: *Bureau of Registration Administration, NHSO, September 2017*

Figure 13 Results of the National Health Insurance System classified by type and affiliation of service units, FY 2017



Source: Bureau of Registration Administration, NHSO, September 2017

Figure 14 Results of the National Health Insurance System classified by type of service unit and NHSO FY 2017.



Source: Bureau of Registration Administration, NHSO, September 2017

5) Accessibility, Efficiency, Quality and Effectiveness of the Healthcare System

In FY2017, the NHSO was allocated a budget for medical expenses totaling THB109,463.4406 million based upon the rate of THB3,109.87 per person and the number of eligible people being 48.8029 million. Key performance indices (KPIs) of the UCS management were set in several dimensions. Details of goal and performance for each KPI are described below (Table 3).

Table 3 Performance of Medical Services for FY 2017

KPIs	Units	Target (according to budget allocation)	Output	Performance (% of output)
Targeted population [1]				
- Thai citizens (30 Sept.2017)	person	65,521,660	66,013,645	100.75
- UCS beneficiaries (30 Sept.2017)	person	48,802,900	48,109,957	98.58
1. Out-patient services (OP)[2]				
- total OP visits	visits	156,624,071	184,275,260	117.65
- utilization rate	visits/person/year	3.209	3.821	119.06
2. In-patient services (IP)[3]				
- total admissions	visits	5,849,261	6,015,586	102.84
- utilization rate	visits/person/year	0.120	0.125	104.07
3. Disease management or vertical programs				
3.1 Accident and Emergency (AE)				
- AE in hospitals located outside their registered province, and service outside registered hospital in disabled people [3]	visits	1,241,941	1,367,141	110.08
- Number of non-registered UCS accessing to service in the first time and the insured are not entitled to the Social Security Fund, both outpatient and inpatient. [3]	visits	13,003	9,524	73.25
- OP refer out of province or OP refer within province where having university hospital in province (OP-Refer) [4]	visits	318,948	395,058	123.86
- Referred cases with transportation cost [3]	visits	230,186	245,410	106.61
3.2 Confidence in quality of care improvment				
- Number of dialysis / hemodialysis in case of acute renal failure (Peritoneal dialysis and Hemodialysis for acute renal failure) [3]	visits	33,415	34,550	103.40

KPIs	Units	Target (according to budget allocation)	Output	Performance (% of output)
- Medicinal treatment for opportunistic infections (Cryptococcal meningitis & Cytomegalovirus retinitis) in HIV-patients: Cytomegalovirus retinitis)) [3]	visits	3,721	2,815	75.66
- Thromboembolism in patients with stroke or obstruction. (Stroke fast track) [3]	cases	2,988	3,861	129.22
- Intravenous thromboembolism in patients with acute myocardial infarction ST-elevated type (STEMI fast track) [3]	cases	3,029	4,503	148.66
- Cataract surgery [3]	cases	112,200	126,884	113.09
- Laser treatment for diabetic retinopathy[3]	cases	7,589	10,486	138.17
- Orthodontics services for cleft lip and cleft palate [5]	cases	1,345	1,186	88.18
3.3 financial risk of healthcare providers reducing				
- Cure / diverticular disease with high pressure oxygen [3]	person	4	10	250.00
- Corneal Replacement Surgery (including supply, storage and treatment of the eyes) [6]	eyes	591	421	71.24
- Heart transplantation [7]	person	80	76	95.00
- Liver transplantation in children [7]	คน	179	221	123.46
- Hematopoietic stem cell transplantation [6]	person	62	51	82.26
3.4 Services required closed monitoring				
- Methadone maintenance treatment (MMT) in drug addicts [3]	person	7,331	7,795	106.33
- Essential, high-costs drug (E(2) category drug list of the NLEM) [8]	person	28,043	33,145	118.19
- Orphan drugs (17 lists) [8]	person	8,395	6,917	82.39
- Compulsory Licensing: CL(Clopidogrel) [8]	person	180,858	143,518	79.35
3.5 Disease management or vertical programs				
- Transfusion-dependent thalassemia : TDT [9]	person	10,171	12,084	118.80
- Tuberculosis[10]	person	83,453	76,886	92.13
- Palliative care [11]	person	7,249	8,936	123.27
4. Health promotion and prevention				
- Seasoning influenza vaccines[11] (Elderly> 65 years, 7 chronic diseases, pregnant women> 4 months, children 6 months -2 years, immunocompromised patients)	Cases	3,064,981	2,676,035	87.31

KPIs	Units	Target (according to budget allocation)	Output	Performance (% of output)
5. Rehabilitation [3]				
- Disabled	person	1,195,481	1,233,555	103.18
- Instruments for disables	person	43,328	35,530	82.00
- Rehabilitation services for disables	person	195,454	184,359	94.32
- Rehabilitation services for elderly	person	307,226	414,340	134.86
- Rehabilitation services for others	person	455,175	310,422	68.20
- Rehabilitation Services for disabled persons and bed ridden patients	person	5,183	3,203	61.79
- Orientation and Mobility (O&M) for disables	person	2,746	1,903	69.29
6. Traditional Thai Medicine [3]				
- Massage, hot compress, herbal stream	visits	4,429,982	4,801,846	108.39
- Postpartum care	person	36,032	44,902	124.62
- Prescribing herbal medicines in national essential drug list	visits	6,271,410	7,803,442	124.43
7. Preliminary Assistance to Service Providers [12]				
- Preliminary compensations in accordance with section 41 of the Act	person	989	661	66.84

Source:

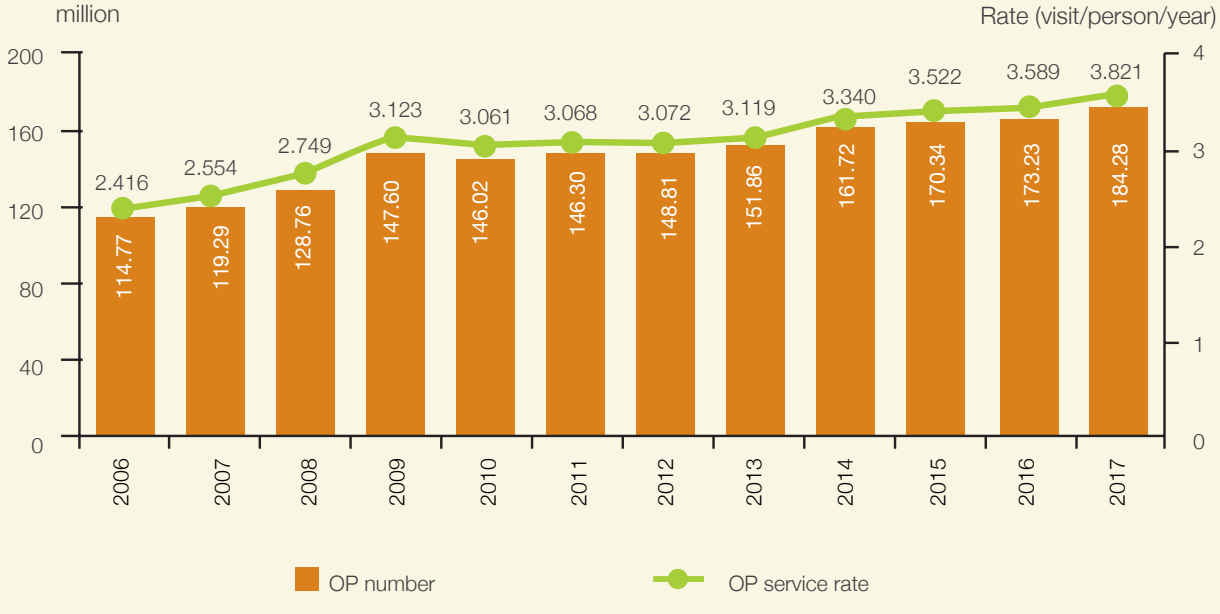
1) *National Statistical Office Registration Office as of 30 September 2017*
2) *Outpatient Services Information Individual Rights UC Information Security Information Center as of September 30, 2017 Individual Information Services UC Rights Information Security Bureau Information as of July 19, 2017 (10 months). 10 months to 12 months, processed in January 2018, analyzed by the Office of Planning and Budget,*
3) *M & E for Payment (H0401), Information and Evaluation Center for Health Information, as of September 30, 2017, as of December 31, 2017.*
4) *Information Security Administration Office as of September 30, 2017. Processed as of January 31, 2018.*
5) *The Office of Management, Allocation and Compensation of the NHSO. Information as of September 30, 2017. Processing as of December 31, 2017.*
6) *Bureau of Quality Support and Standards, Service Center, Ministry of Information, 30 September 2017.*
7) *Program for supporting the renal disease system, 30 September 2017*
8) *The Bureau of Drug and Alcohol Information Services Support as of September 30, 2017.*
9) *The integrated screening system for abnormalities of pregnant women and newborns was analyzed by the Office of Primary Care Service Support as of September 30, 2017.*
10) *TB Information System (TB Data HUB) is an analysis of the HIV / AIDS Tuberculosis and Tuberculosis Service Information System as of September 19, 2017.*
11) *Report Information 43 File Ministry of Public Health As of September 30, 2017, processed as of January 31, 2018. Analysis by the Office of Primary Care Service Support.*
12) *The National Statistical Office. Information as of September 30,2017.*

6) Access to inpatient and outpatient services

As the preferred mode of access to care, outpatient (OP) services can be a strong indicator to the overall use of healthcare services. Data between FY2006 and FY2017 show that the number people using OP services under the UCS increased from 114.77 million in FY2006 to 184.28 million in FY2017 (2,416 times / person / year in FY2006 to 3,821 visit / person / year in FY2017) (Figure 15).

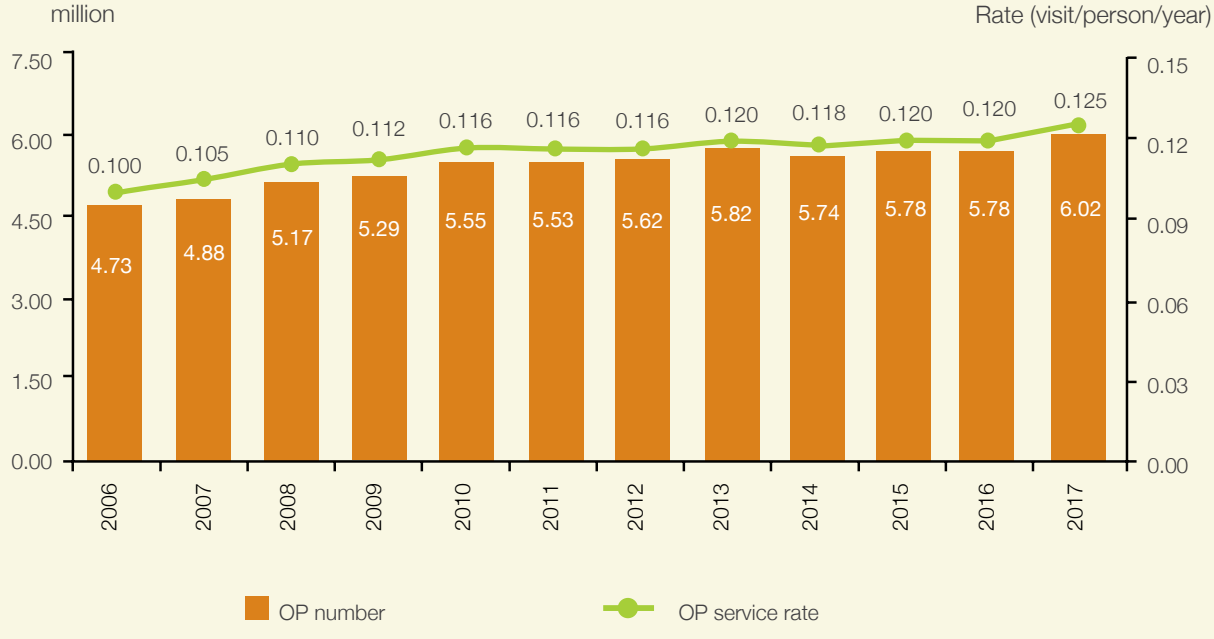
As for inpatient services, the number of users has increased from 4.73 million in FY2006 to 6.02 million in FY2017 (from 0.100 visit / person / year in FY2006 to 0.125 visit / person / year in FY 2017) (Figure 16).

Figure 15 The number of out-patient visits and utilization rate per person per year of the UCS, FY 2006-2017



Source:
1) *Outpatient Information FY 2006-2009 from 0110, Office of the Permanent Secretary, Ministry of Public Health and NHSO, analyzed by the NHSO.*
2) *Outpatient Compensation Outpatient Outreach Database UC FY 2010 - 2013 Compensation and Benefits Management Office, December 2013, by NHSO*
3) *Outpatient Services Information UC FY 2014-2017 Bureau of Insurance Information Administration as of January 2018 Analysis by NHSO.*

Figure 16 The number of in-patient visits and utilization rate per person per year of the UCS, FY 2006-2017



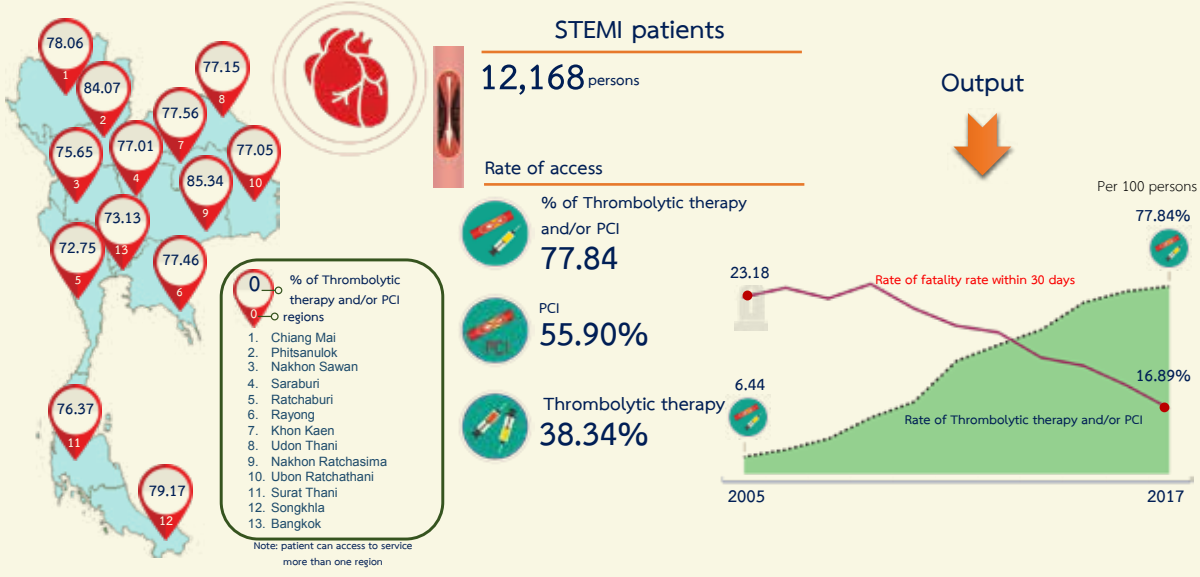
Source: 1) *Patient Information Service in FY 2006-2009 from 0110, Office of the Permanent Secretary, Ministry of Public Health and NHSO,Analyzed by NHSO.*
2) *The UC FY 2010 - 2012 Compensation Patient Databases. The Office of Management, Allocation and Compensation for Processing Services. December 2013, analyzed by the NHSO Plan and Budget Office.*
3) *Individual Patient Information Service UC FY 2013-2016 Insurance Information Administration March 2016.Data as of July 19, 2017 (10 months), based on 10-month data for 12 months. January 2018, analyzed by the NHSO*

7) Access to specific services

7.1) Cardiovascular services

In FY2017, access to services for cardiovascular patients increased from 6.44% in 2005 to 77.84 FY2017 for essential cardiovascular procedures such as coronary artery bypass surgery, percutaneous coronary intervention (PCI) and thrombolytic therapy in ST-elevated acute myocardial infarction (STEMI). However, fatality within 30 days of hospitalization has declined from 23.18% in FY2005 to 16.89% in FY2017 (Diagram 7).

Diagram 7 UCS patients receiving corrective heart procedures FY 2017

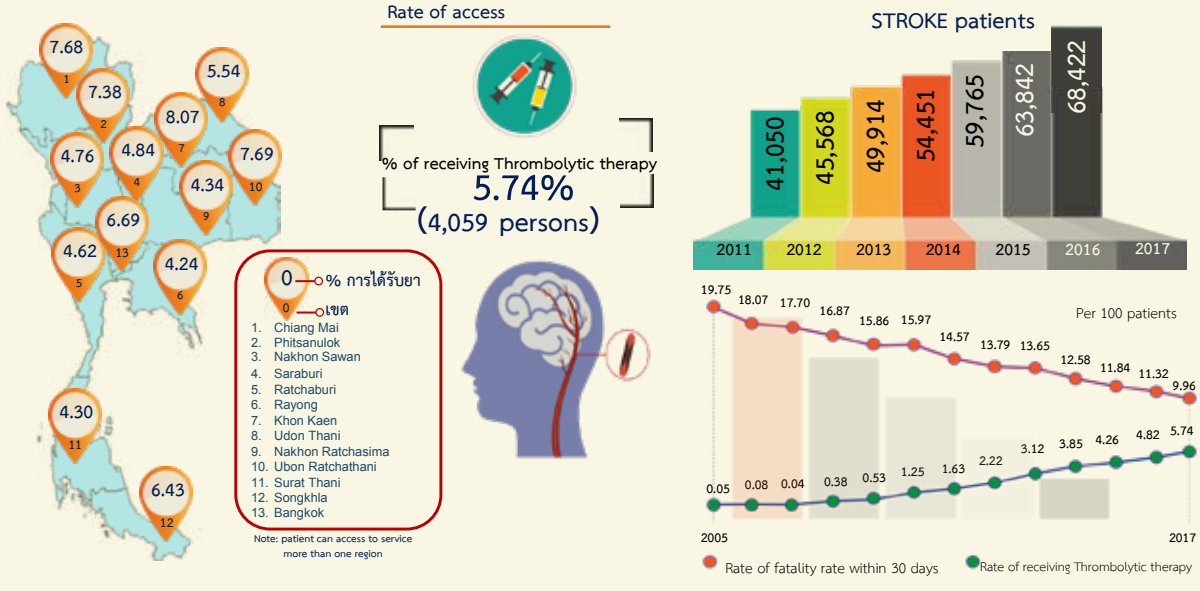


Source: *NHSO Health Indicators Report (H0301) Data as of September 30, 2017 Bureau of Insurance Information Administration as of November 30, 2017, by NHSO.*

7.2) Heart disease and stroke services

The number of people dying from heart disease is increasing every year. A large majority are left disabled, resulting in lower quality of life.. The number of patients with cerebral thrombosis receiving thrombolytics increased from 0.05% in FY2005 to 5.74% in FY2017 and the mortality rate, within 30 days of hospitalization, declined from 19.75% in FY2005 to 9.96% in FY2017. This shows that quicker access to medical services and efficient treatment decreases both disability and mortality (Diagram 8).

Diagram 8 Access to thrombolytic drugs for stroke patients FY 2017

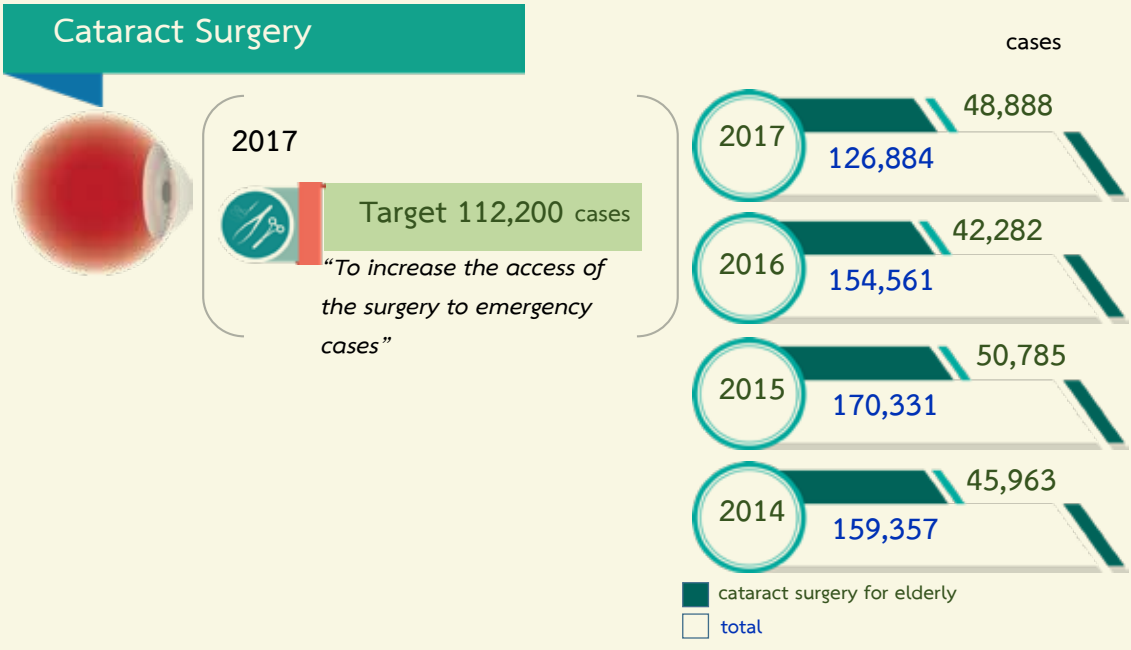


Source: *NHSO Health Indicators Report (H0301) Data as of September 30, 2017 Bureau of Insurance Information Administration as of November 30, 2017, by NHSO.*

7.3) Cataract patient services

In FY2017, the UC population received 126,884 cataract surgeries for blinding Cataract (VA eye level worse than or equal to 20/400) (Diagram 9).

Diagram 9 Acces to Cataract Surgical Services FY 2017



Source: 1) *FY 2013-2014, analyzed by the NHSO-funded chronic disease and disease support program.*
2) *FY 2015-2017 from the M & E for Payment (H0401) report.Evaluation of NHSO health outcomes Data as of September 30, 2017 Processing as of December 31, 2017*

8) Health Promotion and Disease Prevention

The Health promotion and disease prevention policy is an important strategy of the UHC that helps curtail illness from preventable diseases and prolongs quality of life through healthier life choices. The importance of this strategy, which covers both the healthy and the sick, lead the National Health Security board to increase its budget for health promotion and disease prevention from THB175.00 per person in FY 2003 to 405.29 baht per person in FY 2017. This is an increase of 2.32 times in 15 years (Table 4).

Table 4 Performances on health promotion and disease prevention, FY 2015-2017

No.	Indicators	Outcome(%)		
		FY 2015	FY 2016	FY 2017
1. Maternal care				
1.1	Rate of pregnancies attended the first visit of ANC within the first 12 weeks. 1 (60% target)	57.10	62.25	66.43
1.2	Rate of pregnancies attended at least 5 times for antenatal care during pregnancy21 (60% target)	51.10	50.25	53.27

No.	Indicators	Outcome(%)		
		FY 2015	FY 2016	FY 2017
1.3	Percentage of women after childbirth and taken care of 3 times. 1 (65% target)	-	49.79	51.53
1.4	Primary screening for Thalassemia in pregnant women[2]	92.97	95.00	92.00
1.5	Maternal mortality rate (target no more than 15%) UCS Rights	28.07	31.14	25.41
1.6	The incidence of hypoxia of baby during labor. UCS Rights	26.51	25.74	25.76
1.7	Percentage of low birth weight (<2,500 grams) in UCS Rights [2] (7% target)	10.27	10.55	10.74
1.8	Birth delivery rate of teenage pregnancy, age 15-19 years, UCS (per 1000 girls aged 15-19 years) [2] (40 % target)	43.44	41.25	38.29
2. Child health				
2.1	Rate of confirmation in thyroid hormone deficiency (80% target)	85.96	89.00	67.75
2.2	Children age 0-5 years grow properly 1 (80% target)	81.50	91.94	95.84
2.3	Students with weight issues 1 (10% target)	3.56	3.57	3.28
3. Workforces and elderly care				
3.1	Diabetes screening [1] (not less than 90 % target.)			
	• Aged 30-59 years old	67.89	75.41	84.65
	• Aged 60 years or older	63.21	71.45	81.89
3.2	High Blood Pressure Screening [1] (not less than 90 % target.)			
	• Aged 30-59 years old	71.44	79.24	85.51
	• Aged 60 years or older	70.28	78.34	84.10
3.3	Denture service in elderly group aged 60 years and older [3] (2015 Goal: 35,000 people in 2016: 33,390 people 2017 : 40,000 people)	101.19	111.2 (37,146 คน)	111.4 (43,492 คน)
3.4	Seasonal influenza vaccines in risk groups [4] (2015 goal: 2,831,998 people in 2016: 3,154,507 people in 2017: 3,064,981 people)	78.47	78.04 2,461,663	87.31 2,676,035

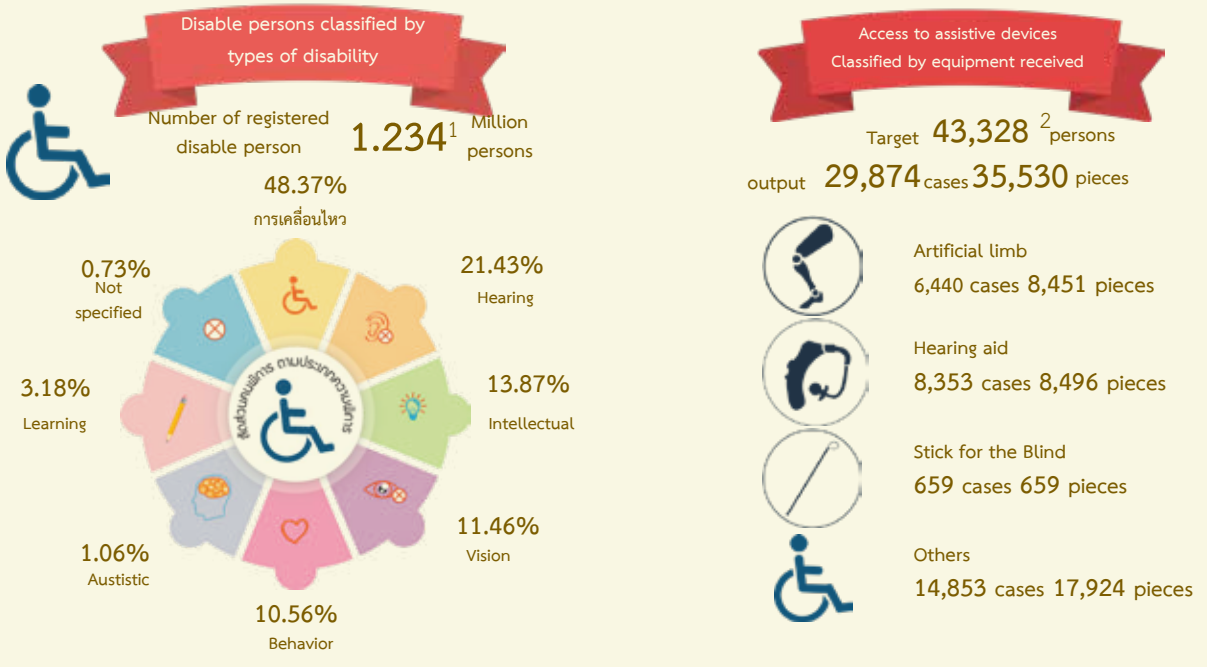
Source:
1) *Health Data Center: HDC Ministry of Public Health Information as of September 30, 2017 Processed as of February 13, 2018 (Excluding District 13 Bangkok)*
2) *Only UC rights in the NHSO database. As of September 30, 2017, processed as of December 31, 2017.*
3) *Dental Implant Service Report of 2017 http://nakhonsawan.nhso.go.th/denture/denture1.php*
4) *Information as of September 30, 2017. Processing as of January 18, 2018.*
5) *Data reported 43. Ministry of Public Health data analyzed by the Office of Primary Care Service Support. Data as of October 31, 2017, processed as of January 31, 2018*

9) Rehabilitation Services

The number of registered disabled persons increased from 361,472 in FY2005 to 1,233,555 in FY2017. Statistics for disabled people classified by types of disability shows that most have physical disabilities (48.37%), deaf and hard of hearing (21.43%) and with intellectual disabilities (13.87%) There were 29,874 of 35,530 people categorized as handicapped (Diagram 10).

Of the elderly in need of rehabilitation services 45.39% (414,340 people) were recruited for rehabilitation services;but 32.59% (310,422) of patients still required treatment (Diagram 11).

Diagram 10 Disabled people registered to the UCS classified by types of disability, FY 2017



Source: *M & E for Payment (H0401), NHSO Data as of 30 September 2017 Processing as of 30 November 2017*

1) *Registered disabled person. 1,233,555 people can be classified as 1,090,192 disabled and one disabled person may have multiple disabilities.*
2) *NHSO There are measures to optimize the use of assistive devices for the disabled. The term of the device.*
3) *Not including NHSO. District 13 Bangkok*

Diagram 11 Rehabilitation Services classified by type of service. FY 2017

	Target case	Output case	%
Disable person	195,454	184,359	94.3%
Elderly people need to be rehabilitated	307,226	414,340	134.8%
Patients need to be rehabilitated	455,175	310,422	68.2%
Patients with Paralysis	5,183	3,203	61.7%
Total	963,038	912,324	94.7%

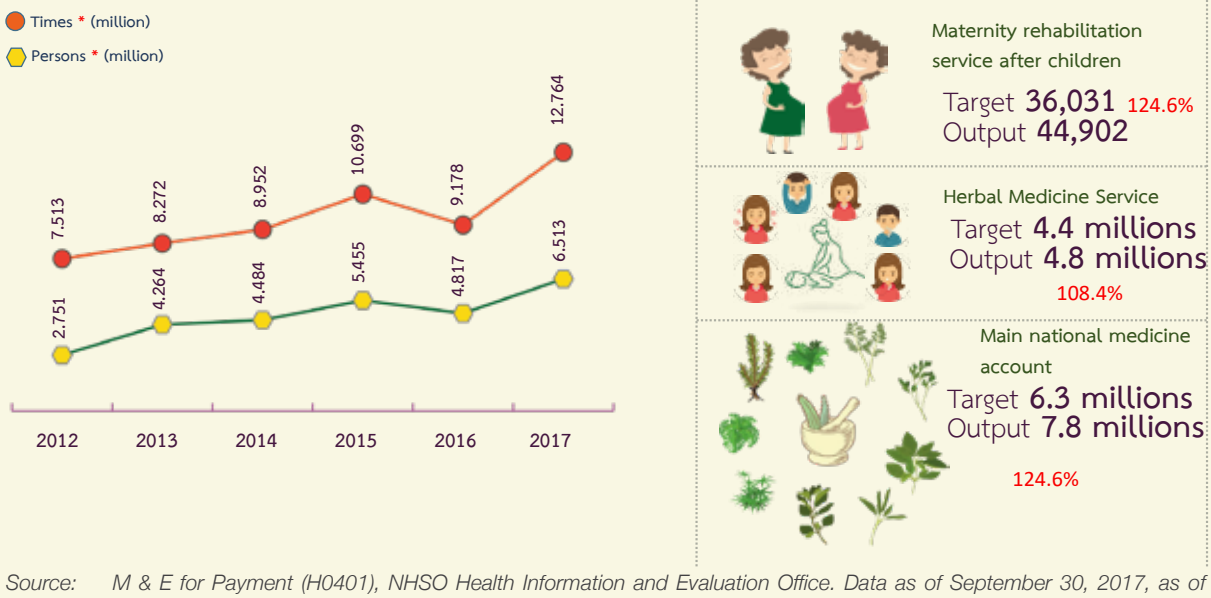
	Disable person cases	Disable person times	Elderly people need to be rehabilitated cases	Elderly people need to be rehabilitated times	Patients need to be rehabilitated cases	Patients need to be rehabilitated times	Patients with Paralysis cases	Patients with Paralysis times
	184,359	731,847	414,340	1,531,030	310,422	1,099,270	3,203	10,557
physical theraphy	104,075	356,096	350,463	1,329,122	181,927	728,937	1,899	6,705
psychotherapy	63,355	210,924	44,587	110,287	80,094	180,418	569	1,105
behavior theraphy	13,656	44,099	4,770	9,911	22,234	53,149	293	705
occupational theraphy	11,802	66,016	12,786	44,807	19,956	72,172	344	1,075
hearing rehabilitation	9,640	14,621	11,209	15,103	3,257	3,802	133	143
early intervention	4,704	19,830	371	475	20,450	40,657	304	534
assessment of speech problems	4,704	6,846	11,349	20,104	4,875	6,443	8	11
visual rehabilitation	2,920	13,061	485	1,098	4,628	13,579	106	278
Phebol block	250	354	101	123	96	113	1	1

Source: *M & E for Payment (H0401), NHSO Data as of 30 September 2017 Processing as of 30 November 2017*
note: *Not including in NHSO District 13 Bangkok*

10) Traditional Thai Medicine service

Alongside the use of modern medicine, the NHSO continues to promote and support expanding Thai Traditional Medicine (TTM) services; allowing people an alternative medical option. During FY 2016 , Thai Traditional Medicine was used by 6,513,342 people (12,763,670 times). These include Herbal Massage or Herbal Compress 1,883,692 people (4,801,846 times); Maternity Rehabilitation Services 44,902 people (158,382 times); National Herbal Medicine Service 4,584,748 people (7,803,442 times); Herbal medicine from outside the national primary drug list 3,237,649 people 4,819,468 times) (Diagram 12).

Diagram 12 Thai Traditional Medicine services FY 2017



Source: *M & E for Payment (H0401), NHSO Health Information and Evaluation Office. Data as of September 30, 2017, as of November 30, 2017.*

1) Thai traditional medicine refers to the massage, herbal compress, post-natal rehabilitation. And herbal medicine services (Only in National Medicines Account)

2) Not including NHSO. District 13 Bangkok

11) Pharmaceuticals and Medical Instruments

NHSO, in collaboration with the Food and Drug Administration (FDA) of the MoPH, has promoted drug access and compensation systems. These systems provide access to drug information, monitor usage and ensure drugs meet certain criteria. It also provides patients with access to high-priced medications as needed lessening the burden on the family unit.

By the end of fiscal year 2017, the National Health Security Board has resolved to develop a management system to allow batter access to drugs, prosthetics and necessary medical equipment. Rajavithi Hospital is responsible for the administration of medicines and medical supplies, prosthetic organs and medical devices.

Government budget savings for access to prescription drugs E(2) (Essential, high-cost drugs) in new patients (Table 5) and Orphan drugs and antitdotes (Table 6) as shown below. This was THB44,430.84 million in FY2010 whereas in FY2017 the saving was THB8,567.48 million (Table 7).

Table 5 Access to medication accounts E(2) by new patients, classified by the list of drugs. FY 2013-2017.

Drug list	2013	2014	2015	2016	2017
1. Letrozole	1,382	2,282	2,452	3,042	3,366
2. Docetaxel	1,447	2,892	1,684	2,768	1,776
3. IVIG	1,318	1,307	1,267	1,513	1,468
4. Botulinum toxin type A	677	690	750	1,115	870
5. Leuprorelin	204	200	242	265	294
6. Liposomal Amphothericin B	133	198	212	190	245
7. Verteporfin	61	-	-	-	-
8. Bevacizumab	2,694	3,908	4,535	6,979	5,972
9. Voriconazole	216	470	444	374	462
10. Thyrotropin alpha	21	25	67	77	83
11. Peginterferon	559	771	1,869	1,817	1,128
12. ATG	56	100	105	137	102
13. Linezolid	4	16	17	13	19
14. Imiglucerase	5	4	5	6	6
15. Trastuzumab	-	-	352	791	622
16. Nilotinib	-	-	519	169	145
17. Dasatinib	-	-	42	73	37
Total	8,777	12,863	14,562	19,329	16,595

Source: *Bureau of Drug and Alcohol Drug Information Support Center, as of September 30, 2017*

Table 6 Access to Orphan drugs and Antidotes FY2013-2017

Lists		2013	2014	2015	2016	2017
1.	Sodium nitrite inj.	32	7	7	17	12
2.	Sodium thiosulfate 25% inj.	32	16	8	33	25
3.	Succimer cap. (DMSA)	15	1	1	6	1
4.	Methylene blue inj.	59	14	31	69	89
5.	Glucagon kit	3	2	-	-	-
6.	Dimercaprol inj. (British Anti-Lewisite; BAL)	3	11	5	4	2
7.	Digoxin-specific antibody fragments	2	1	1	4	-
8.	Sodium Calcium edetate (Calcium disodium edetate) (Ca Na2 EDTA)	11	15	7	18	19
9.	Botulinium antitoxin	3	5	2	-	-
10	Diptheria antitoxin	240	105	51	94	82
11	Esmolol inj.	18	21	25	42	6

	Lists	2013	2014	2015	2016	2017
12	Polyvalent antivenum for hematotoxin)	92	509	691	1,041	1,001
13	Polyvalent antivenum for neurotoxin	31	98	159	208	178
14	Green Pit Viper antivenin	355	1,754	1,952	2,227	1,838
15	Malayan Pit Viper antivenin	337	2,239	2,007	2,498	2,687
16	Russell's Viper antivenin	13	156	165	165	208
17	Cobra antivenin	126	521	577	672	716
18	Malayan Krait antivenin	9	30	19	13	20
19	Diphenhydramine inj.	-	-	-	30	33
	Total	**1,381**	**5,505**	**5,708**	**7,141**	**6,917**

Source: *Bureau of Drug and Alcohol Drug Information Support Center, as of September 30, 2017*
Note: *1) The list of drugs No. 8-14 began to add to the benefits in the national health insurance system in 2013*
2) List of drugs 15-17 starts to increase as a national health insurance system in 2015

Table 7 Government budget saved from central management on specific drugs FY 2010-2017

FY	Value of saved budget					Total
	ARV Non CL[1]	ARV CL[2]	E (2) and Clopidogrel[3]	Influenza vaccines[4]	Serums[5]	
2010	311,768,680	866,282,286	108,014,711	-	-	1,286,065,677
2011	625,511,700	1,732,833,511	1,738,476,361	-	-	4,096,821,572
2012	1,032,528,666	2,318,995,360	1,172,558,860	65,668,964	-	4,589,751,850
2013	1,531,090,725	2,377,051,300	1,429,000,342	95,052,500	55,368,760	5,487,563,627
2014	1,827,692,222	2,870,030,790	2,382,318,247	105,750,000	23,518,810	7,209,310,069
2015	1,562,743,030	3,748,425,392	588,033,199	33,236,250	39,167,500	5,971,605,371
2016	1,680,223,293	2,655,555,463	2,886,455,372	-	-	7,222,234,128
2017	2,114,024,848	3,878,643,013	2,574,814,860	-	-	8,567,482,721

Source: *Bureau of Medicines and Medical Supplies Management, NHSO Information as of September 30, 2017*
Note: *1) calculated based on budget spent in FY2009*
2) calculated based on drug price before compulsory licensing (CL) announced by the government
3) calculated based on drug price before having vertical program on E(2) category list and before CL on Clopidogrel
4) calculated based on budget spent in FY2011
5) Economical value of procurement of drugs according to the old system before 2013 is the base year (purchasing value of 78,167,500 baht)

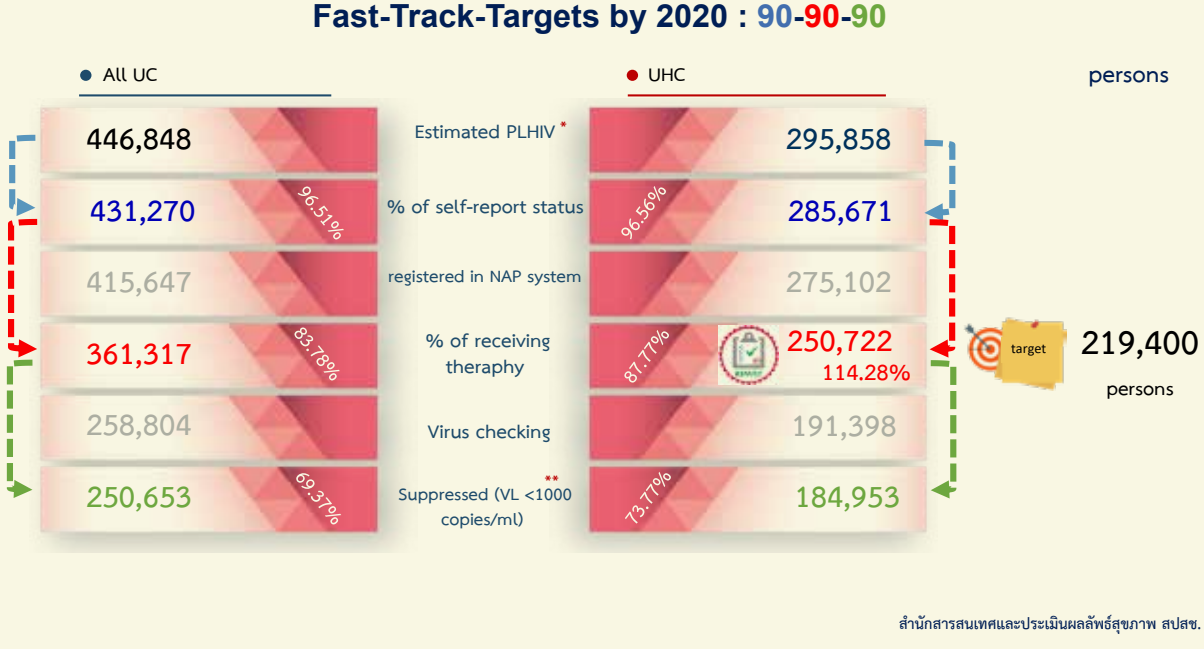
4.3. Management of services for specific targeted groups

4.3.1 Services for HIV and AIDS patients.

The NHSO encourages people with HIV and AIDS to access health care services. In FY2017, THB3,122,408 million targeted at 219,400 people was allocated for services for people living with HIV / AIDS. Antiretroviral treatment accounted for THB2,922,408 million while the other THB200 million was used for HIV awareness and prevention in the 72,500 vulnerable population.

By FY2019, Thailand has set the goal of ending the country's AIDS problem. It is called Fast-Track-Targets 2020 or 90-90-90. This means 90% have been checked for infection; 90% of HIV-infected patients have received antiretroviral therapy; and 90% of antiretroviral users have suppressed viral load (Suppressed: VL <1000 copies/ml). In FY2017, 285,671 AIDS and HIV-positive people were aware of their HIV status (96.56% of the estimated 295,858 people living with AIDS and HIV). Of the 275,102 people enrolled in the HIV / AIDS Patient Service System (NAP), 250,722 were treated with antiretroviral drugs (87.77% of those who know their infection status). There were 184,953 (73.77%) cases where antiretroviral drugs successfully suppressed the virus (Diagram 13).

Diagram 13 HIV and AIDS services FY 2017

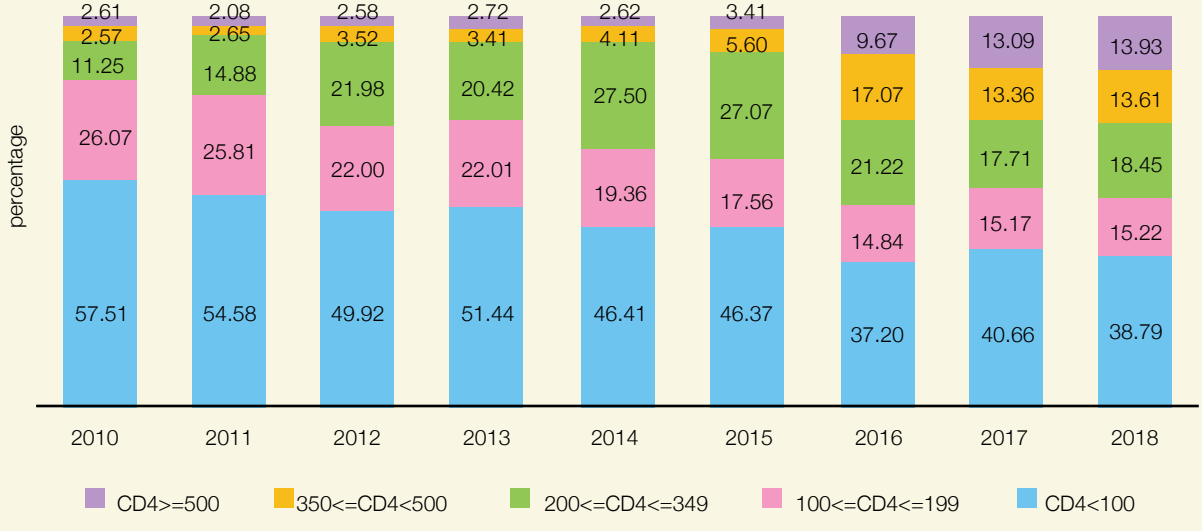


Source: 1) *Information Service System Report on the performance, treatment and follow-up of HIV / AIDS patients. Data as of September 30, 2017, processed as of November 30, 2017. The program supports the NHSO, Tuberculosis and Tuberculosis Service.*

2) *Estimated HIV / AIDS patients (Estimated PLHIV) by the National Center for AIDS Management, Department of Disease Control, Ministry of Public Health.*

According to data released by provider follow-up services it was evident that a delay in accessing health services was the main cause of death. All patients entering the system under the UCS are tested and classified, based on CD4 level to ascertain the severity of their condition before being enrolled for ART. The number of new cases with severe immune deficiency (CD4 < 100 cell/mm3) enrolled into the program have continued to decrease slightly from 57.51% in 2009 to 38.79% in 2017. Patients with impaired immunity (CD4> = 500 cells/mm3) has increased from 2.61% in 2009 to 13.93% in 2017. This is consistent with the policy of extending access to antiretroviral drugs. Any person diagnosed HIV positive should receive antiretroviral treatment regardless of CD4 level, have access to HIV counseling and testing services at least twice per year to determine the status of infection. All information is logged to ensure care is received faster and to reduce the risk of the disease spreading (Figure 17).

Figure 17 Proportion of new HIV / AIDS patients and CD4-eligible patients (CD4 cell level / mm3) FY 2009-2017



Source: *Information Services Reporting results, treatment and follow-up of HIV / AIDS patients. Data as of 30 September 2017. Processing as of 30 November 2017.The program supports AIDS, Tuberculosis and HIV infection NHSO.*

4.3.2 Chronic Kidney Diseases

The NHSO has approved additional funds to the monthly budget for Renal Replacement Therapy, which is a costly treatment that exceeds the average household budget. Financial barriers such as excessive cost of treatment and after-care as well as a limitation of suitable service facilities have affected necessary patient care. In order to promote quality of care, quality of life, and health outcome, kidney replacement therapy, i.e., peritoneal dialysis for end-stage chronic kidney diseases has been included in the UCS benefit packages under the "PD first" policy since FY2008. Other methods, i.e., hemodialysis (HD) and kidney transplantation (KT), were included later for cases where Continuous Ambulatory Peritoneal Dialysis (CAPD) could not function.

In FY 2017, the NHSO allocated a budget of THB7,529.2353 million for dialysis treatment targeted at 52,911 chronic renal failure patients. There were 53,234 patients with chronic renal failure of which 28,258 people received Continuous Ambulatory Peritoneal Dialysis (CAPD) and 22,743 Hemodialysis (HD). Erythropoietin (EPO) is used to stimulate red blood cells. Of the hemodialysis patients, 6,216 people were not approved for dialysis by the Board of Directors and must self-pay (HD Self-pay). There were 208 kidney transplant recipients and 2,025 people, both old and new, received kidney transplantation immunosuppressive drugs. (Table 8)

Table 8 Renal Replacement Therapy in patients with chronic renal failure, FY 2013-2017

Service	2013	2014	2015	2016	2017
1. Continuous Ambulatory Peritoneal Dialysis: (CAPD)	14,225	18,284	21,513	26,681	28,258
Old	7,407	10,748	13,817	19,125	20,450
New					
- Patients who register and receive new services.	5,554	7,169	7,320	7,224	7,411
- Patients switched to CAPD therapy.	1,264	367	376	332	397
Patients who leave CAPD					
- Dead	3,233	4,066	4,590	4,998	5,259
- CAPD patients who change treatment methods				1,216	1,416
- Patients who stop treatment / can not be tracked.	244	401	433	17	18
2. Hemodialysis (HD)	7,855	10,525	13,223	14,622	16,527
Old	5,250	6,676	9,011	11,308	12,861
New					
- Patients who register and receive new services.	2,071	2,513	2,680	1,545	1,664
- Patients switched to HD therapy.	534	1,336	1,532	1,769	2,002
Patients who leave the HD					
- Dead	995	1,484	1,669	1,680	1,823
- HD patients who change treatment methods				81	86
- Patients who stop treatment / can not be tracked.	184	30	36	0	0
3. Hemodialysis Self Pay (HD Self-pay)	2,513	3,389	4,067	5,683	6,216
Old	1,356	1,992	2,529	4,087	4,380
New					
- Patients who register and receive new services.	797	1,365	1,488	1,550	1,796
- Patients who switched to HD Self-pay	360	32	50	46	40
Patients who leave the HD Self-pay					
- Daed	431	715	816	850	930

Service	2013	2014	2015	2016	2017
- HD Self-pay patients who change treatment methods				453	622
- Patients who stop treatment / can not be tracked.	90	145	139	0	0
4. Kidney Transplantation (KT)	86	182	182	204	208
- New	86	182	182	204	208
- Dead	3	9	15	17	13
5. Kidney Transplantation Immunosuppressive Drug (KTI)	1,197	1,295	1,417	1,859	2,025
Older patients (old patients carried over from the past year)	998	1,068	1,189	1,607	1,791
New	199	227	228	252	234
Patients who leave the KTI way					
- Dead	24	65	83	41	40
- Patients who change treatment methods	105	41	35	27	33
Total	**25,876**	**33,675**	**40,402**	**49,049**	**53,234**

Source: *Information for patients with chronic renal failure, year 2013-2017 Bureau of Information Management Information as of September 30, 2017 Data processing as of January 31, 2018 Analysis of the system support services for kidney disease,*

Note:
1) *Patients may change RRT method in accordance with their medical indications*
2) *The number of patients accessing RRT services does not include the number of dead patients.*
3) *Hemodialysis Hemodialysis (HD) is a hemodialysis service in patients with end-stage renal disease that meets the criteria set by the fund. Hemodialysis Red Blood Cell (EPO) and Management Cost*
4) *HD self pay is the only hemodialysis (EPO) blood donation service in the last decade.*

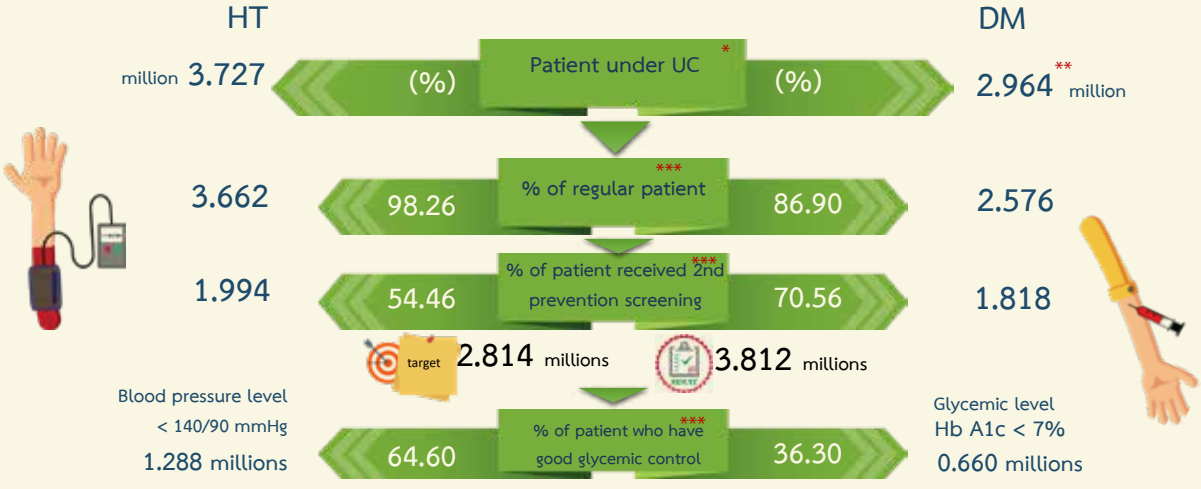
4.3.3 Services to control, prevent and treat chronic diseases.

1) Diabetes and Hypertension Services

Diabetes Mellitus (DM) and Hypertension (HT) are preventable conditions , however prevention is also required. Prevention and treatment of the diseases can reduce the burden on the patient their family and society in the long term. In FY2017, the NHSO was allocated a budget of THB910.609 million to screen patients with complications resulting from these diseases (secondary prevention).

In FY2017, there were 3,811,885 patients with diabetes and/or hypertension receiving secondary prevention and control services, (135.45% of targeted 2,814,300 patients). Of these 70.56% of patients with diabetes and / or hypertension were without complications (1,817,539 of 2,575,999). Access to 2nd prevention services is moitored (HbA1c, lipid profile, micro albuminuria, retinal detachment and foot exams) at least once a year. 36.30% were found to have good glycemic control (HbA1c <7%) and 54.46% (1,994,346 out of 3,662,231) did not show any complications. Receiving Fasting Plasma Glucose, Lipid Profile and Urinalysis at least once a year could keep blood pressure to less than 140/90 mmHg in 64.60%. (Diagram 14)

Diagram 14 Accessibility to secondary prevention services for DM and HT, FY2017



Source: *M & E for Payment (H0401) Information and Evaluation of NHSO Health Information Data as of 30 September 2017 Processing as of 30 November 2017*

Note: ** diabetes information Hypertension All in the UC system at the beginning of the fiscal year.*
*** Diabetes Information Excludes type 1 diabetes.*
**** Data from the evaluation report on type 2 diabetes and hypertension FY 2015: MedResNet*

2) Mental health services in the community

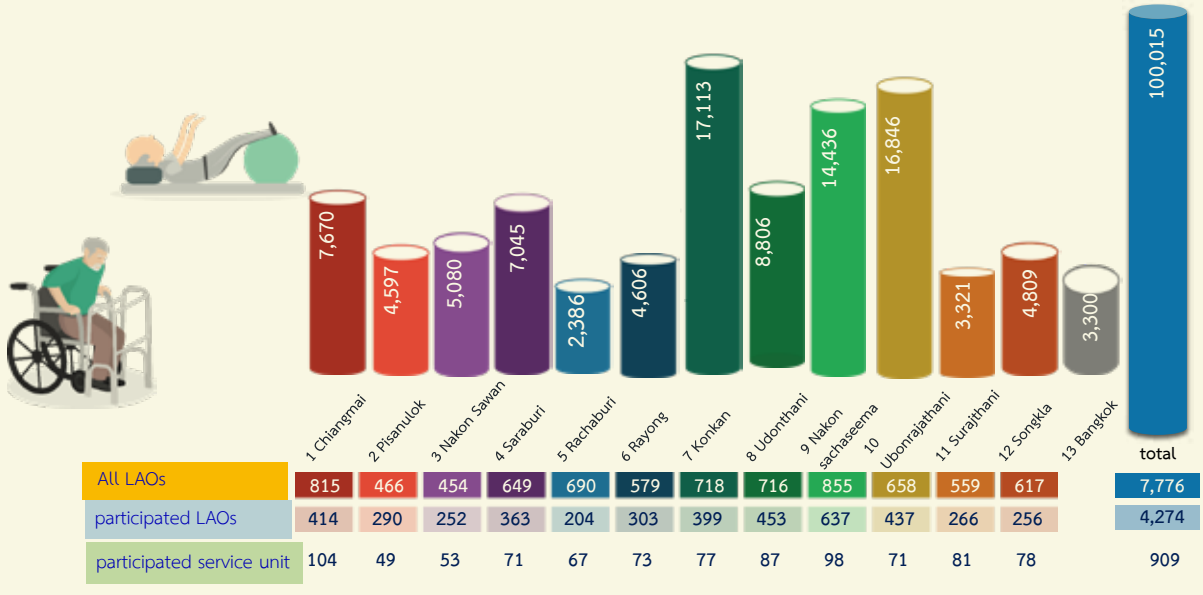
In the FY2017, the NHSO was allocated an additional budget of THB 49.80 million to ensure that chronic psychiatric patients, such as those who suffer from schizophrenia, in the community are monitored and given continuous care, a better quality of life and can return to normal life in society. Care for 8,300 people (target 8,300 people) is provided by 111 nursing homes / hospices and hospitals. Customer service is available at 929 primary care and support units.

4.3.4 Public Health Services for the dependent elderly

In 2016, extra services for the care of the dependent elderly within all sectors were established. Local government and local service units promoted schemes to assess and understand the needs of the dependent elderly. (Barthel ADL index) With this data, individual care plans and public health services for dependent elderly were initiated.

In FY2017, the NHSO allocated a budget of THB900 million to care for 150,000 elderly who are dependent on national health insurance. A budget of THB725 million (THB5,000 per person per year) was allocated to support local health insurance funds in participating areas and THB150 million (THB100,000 per unit) to provide local service units, except Bangkok region which was allocated THB25 million. In 2016-2017, local administrative organizations provided care for 180,841 (175,378 actual people) the elderly with total dependency (80,8626 in FY2016 and 100,015 in FY2017). In the year FY2017, 94,552 were new patients and 5,463 were patients from the previous year (Diagram 15)

Diagram 15 Number of dependents provided for by public health units and local government organizations, FY 2017



Source: *Bureau of Community Health Systems Support Information as of September 30, 2017, processed as of December 15, 2017.*

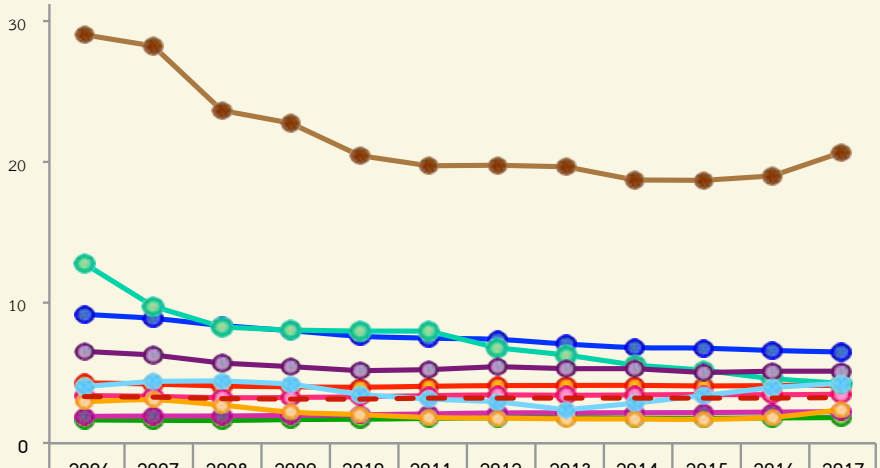
4.4. Expenditures for service units in remote areas, high risk areas and the three southern border provinces

In FY2017, the additional funds were allocated to enhance the efficiency of service units, under the MoPH, in remote areas. The amount of THB1,490.2875 million was distributed among 157 poor/high risk areas and 44 southern border provinces.

4.5. Service efficiency

The average length of stay (LOS) is one of the indicators reflecting effectiveness of IP services as a longer LOS consumes more resources. The average LOS for patients under the UCS during FY2006-2017 fluctuated between 4.07 and 4.24 days. When classified by type and affiliation of hospital in FY2017, hospitals longest average LOS was 21.95 days (decreasing from 29.17 days in 2006), in university hospitals 6.97 days, other government hospitals outside MOPH with 2.96 days, and regional hospitals with 3.31 days per admission (Figure 18)

Figure 18 Average Length of Stay (LOS) classified by type of service unit, FY 2006-2017



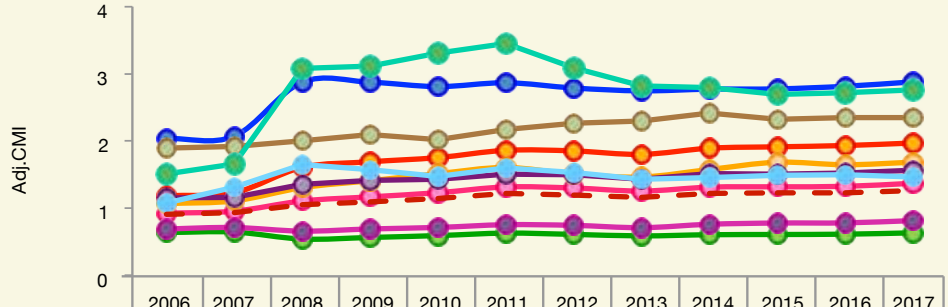
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gov. Regional hosp.	5.08	5.01	4.89	4.84	4.81	4.87	4.91	4.92	4.93	4.89	4.91	4.93
Gov. Local hosp.	4.30	4.26	4.17	4.19	4.23	4.30	4.34	4.32	4.34	4.36	4.35	4.38
Community hosp.	2.81	2.79	2.78	2.83	2.85	2.90	2.94	2.95	2.92	2.91	2.93	2.96
Gov. Community hosp.	3.03	3.05	3.05	3.09	3.13	3.18	3.24	3.24	3.25	3.26	3.29	3.31
University hospital	9.28	9.02	8.59	8.27	7.94	7.82	7.74	7.46	7.24	7.20	7.06	6.97
Private hospital	3.92	4.04	3.71	3.29	3.14	2.96	2.92	2.88	2.87	2.85	2.97	3.43
Health Systems Research Institute	29.17	28.49	24.55	23.74	21.76	21.13	21.17	21.10	20.27	20.25	20.51	21.95
Health Systems Research Institute (Cancer)	12.39	9.76	8.49	8.32	8.25	8.26	7.21	6.80	6.15	5.86	5.32	5.05
Gov. hosp. outside MoPH	7.01	6.80	6.29	6.07	5.83	5.87	6.06	5.96	5.96	5.71	5.81	5.79
Special Administrative Region	4.85	5.18	5.19	5.03	4.37	4.08	3.92	3.43	3.84	4.29	4.80	5.06
Total	4.24	4.20	4.10	4.07	4.07	4.13	4.16	4.15	4.15	4.14	4.13	4.19

Source: : Inpatient Information (IP-research) Fiscal Year 2006-2017 Bureau of Information Security Administration, as of January 2018, analyzed by the Bureau of Information and Healthcare Assessment.NHSO.

Case Mix Index (CMI) is an indicator for measuring severity of diseases calculated from Relative Weight (RW) or Adjusted Relative Weight (AdjRW) of all IP cases within a specific period to reflect effectiveness of service system. Admission may be more necessary in patients with higher RW or AdjRW.

Calculated with DRG ver 5, Adj.CMI, IP services under the UCS increased from 0.81 in FY2006 to 1.26 in FY2017. Average relative weight is likely to increase and should be compared to the CMI of the same level of service or criteria set, to develop the service system in line with each service unit. The increasing pattern was also true if classifying by types and affiliation of hospitals (Figure 19)

Figure 19 Average Adj.CMI by Category of Services, FY2006-2017



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gov. Regional hosp.	1.18	1.23	1.60	1.69	1.75	1.86	1.85	1.80	1.89	1.91	1.93	1.97
Gov. Local hosp.	0.92	0.95	1.11	1.17	1.23	1.31	1.30	1.25	1.31	1.32	1.32	1.37
Community hosp.	0.63	0.64	0.54	0.56	0.59	0.63	0.61	0.59	0.60	0.61	0.61	0.63
Gov. Community hosp.	0.69	0.71	0.66	0.69	0.71	0.75	0.74	0.71	0.76	0.78	0.78	0.81
University hospital	2.04	2.07	2.87	2.87	2.81	2.87	2.79	2.75	2.77	2.78	2.81	2.88
Private hospital	1.07	1.11	1.30	1.41	1.51	1.60	1.51	1.46	1.57	1.68	1.64	1.68
Health Systems Research Institute	1.89	1.92	2.00	2.09	2.01	2.17	2.27	2.30	2.41	2.32	2.35	2.35
Health Systems Research Institute (Cancer)	1.51	1.66	3.08	3.12	3.31	3.45	3.09	2.82	2.79	2.69	2.72	2.76
Gov. hosp. outside MoPH	1.15	1.16	1.36	1.41	1.43	1.51	1.50	1.43	1.51	1.51	1.52	1.56
Special Administrative Region	1.07	1.31	1.65	1.57	1.47	1.60	1.53	1.43	1.45	1.49	1.50	1.46
Total	0.90	0.93	1.05	1.09	1.14	1.22	1.20	1.16	1.22	1.23	1.23	1.26

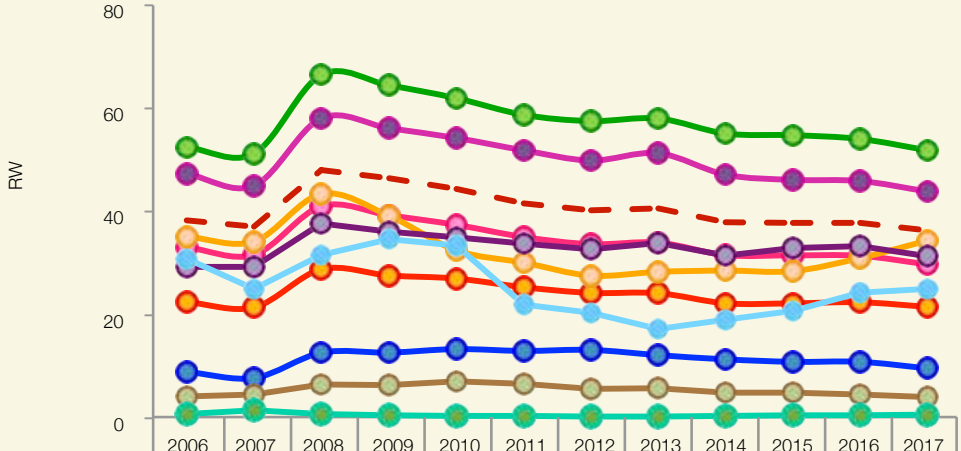
Source: *Inpatient Information (IP-research) Fiscal Year 2006-2017 Bureau of Information Security Administration, as of January 2018, analyzed by the Bureau of Information and Healthcare Assessment.NHSO.*

Note: *Adjusted mean patient relative weight (Adj.CMI) analyzed using DRG ver. 5*

Relative weight (RW) refers to the average resources required for DRG treatment versus the average cost of patient treatment. For patients with a low relative weight (RW), the severity of the disease and the need for hospitalization were low.

In cases of admission having less severity with a Relative Weight (RW) less than 0.5 in FY2017, most cases (51.91%) were admitted at district hospitals, an increase from 31.27% of cases in 2006. Next highest were other government hospitals not under the MOPH (43.93%), and general hospitals (34.43%) (Figure 20).

Figure 20 Percentage of admissions in the UCS having RW<0.5 classified by types and affiliation of hospitals, FY 2006-2017



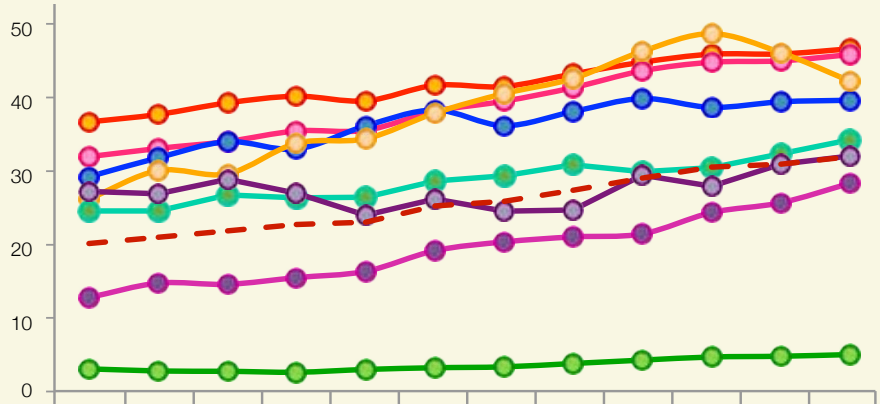
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Regional hosp.	22.52	21.50	28.86	27.67	27.07	25.40	24.29	24.24	22.28	22.27	22.48	21.59
Provincial hosp.	33.14	31.69	41.08	39.33	37.47	35.13	33.73	34.03	31.61	31.57	31.47	29.81
Community hosp.	52.50	51.31	66.55	64.51	62.02	58.79	57.58	58.07	55.16	54.85	54.10	51.91
Community hosp.	47.31	45.07	58.13	56.20	54.31	51.92	49.94	51.35	47.19	46.19	45.97	43.93
University hospital	9.05	7.81	12.71	12.73	13.41	13.05	13.25	12.24	11.42	10.94	10.94	9.68
Private hospital	35.19	34.26	43.45	39.25	32.54	30.16	27.64	28.37	28.62	28.50	31.06	34.43
Specialty hospital	4.18	4.55	6.51	6.48	7.18	6.73	5.73	5.83	4.93	4.98	4.66	4.10
Speciality hospital (Cancer)	0.84	1.57	0.85	0.60	0.48	0.48	0.32	0.32	0.47	0.54	0.55	0.70
Public non-MoPH hosp.	29.28	29.31	37.79	36.18	35.12	33.83	32.72	34.01	31.47	33.00	33.41	31.41
Public autonomous hosp.	30.86	25.11	31.62	34.65	33.42	22.08	20.39	17.30	19.14	20.85	24.39	25.05
Total	38.39	37.09	48.13	46.49	44.42	41.69	40.33	40.69	37.99	37.84	37.89	36.38

Source: *Inpatient Information (IP-research) FY 2006-2017, Information Security Administration, January 2018, Analysis by the NHSO*

Note:
1) Exclude Z380 code (well-being)
2) FY 2008 changed Thai DRG Version 3 to Thai DRG Version 4
3) FY 2012 has changed Thai DRG Version 4 to Thai DRG Version 5

Cesarean section requires more resources and therefore costs are higher than natural childbirth. The percentage of cesarean sections, under the UCS, increased from 20.20% in FY2006 to 31.93% in FY2017. This pattern was seen over all classifications, types and affiliations of hospitals and the rate is likely to increase. (Figure 21)

Figure 21 Cesarean (UCS) by hospital type FY2006-2017



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Regional hosp.	36.66	37.70	39.26	40.17	39.54	41.65	41.49	43.21	44.80	45.89	45.92	46.62
Provincial hosp.	31.93	33.07	34.01	35.45	35.54	38.12	39.49	41.34	43.63	44.79	44.98	45.83
Community hosp.	3.12	2.80	2.76	2.63	3.00	3.24	3.36	3.82	4.28	4.70	4.80	5.03
Community hosp.	12.79	14.74	14.59	15.50	16.36	19.16	20.36	21.04	21.45	24.34	25.68	28.32
University hospital	29.22	31.80	33.98	32.99	36.14	38.29	36.17	38.09	39.85	38.66	39.41	39.63
Private hospital	26.20	30.05	29.61	33.78	34.39	37.88	40.53	42.59	46.28	48.68	46.11	42.24
Public non-MoPH hosp.	24.57	24.57	26.75	26.32	26.45	28.64	29.36	30.81	29.89	30.45	32.34	34.20
Public autonomous hosp.	27.19	26.89	28.91	27.02	23.97	26.21	24.55	24.73	29.42	27.96	30.90	32.05
Total	20.14	21.00	21.84	22.75	23.04	25.23	25.90	27.41	29.04	30.54	30.93	31.93

Source: *Inpatient Information (IP-research) 2006-2017 fiscal year, the Office of Information Assurance process as January 2018, the Bureau of Information Analysis and evaluation of health outcomes NHSO.*

4.6. Quality results and service results.

4.6.1 Quality of Health Services

The NHSO has policies set in place to increase the effectiveness and quality of public health services. Financial mechanisms are used to support the development and service quality of service units. Under the scheme, payment is in accordance with quality criteria and primary care performance. In 2014, the NHSO introduced P4P, based on the UK Quality and Outcomes Framework (QOF), as a mandatory programme for primary care providers. The system uses financial incentives and quality indicators to measure health care service performances. The service quality is reflected in 4 aspects:

1) Health Promotion and Disease Prevention;

2) Primary care;

3) Corporate development and administration services; and

4) The quality and performance of health services in the service area.

The definition of measurement criteria and guidelines for service delivery is the responsibility of the subcommittee on health in the area using guidelines set by the NHSO.

In FY 2017, the NHSO pursued a policy of improving the quality of public health services through a collaborative exchange of ideas between MoPH, NHSO and a number of other relevant agencies. The process set forward

operating guidelines and a set of indicators that reflect service quality. It also created incentives for service units to provide better quality services, continue to improve the quality of health information systems in the area and minimize changes that would impact the operation of the service unit.

Payments are reflected by service quality criteria. Outpatient services paid THB10.00 per person for the 48.4029 million people covered by UC. Health promotion and disease prevention services paid THB10.00 per person for 65.5210 million people.

Health service performance indicators were divided into two categories.

1) Six indicators are set by the NHSO and MoPH and all districts pay in accordance with these service quality criteria; and

2) There must be no more than five different indicators in any one area. These are determined in accordance with the quality, service and development issues in the area of responsibility under the participatory mechanism approved by the regional subcommittee.

The criterion for measuring outcomes uses data from existing databases, saving the need to store extra data. It must reflect the quality of service that links all levels and is a public health problem, such as disease burden, high risk, and high expense.

Service quality standards (QOF) FY 2017 when compared to baseline data from FY 2016 found that all indicators performed better. This result shows primary care units and regular service units' standards and quality of service continuously improved.

- People, such as Thais aged 35-74, are more likely to access vital services and receive screening for diabetes and/or high blood pressure. Cervical cancer screening in women 30-60 and pregnant women receiving antenatal care within the first 12 weeks have increased coverage.

- Service units found that the service units used antibiotics responsibly in acute outbreaks of diarrhea and patients with respiratory infections. There were reductions in hospital admissions for outpatient treatments, ACSC, epilepsy, COPD, asthma, diabetes and hypertension (Table 9).

Table 9 Performance Indicators based on Quality and Outcomes Framework (QOF) FY 2017

Indicators	Baseline FY2016 (%)	PortfolioFY 2017 (%)
Indicators 1 People who have been screened for and diagnosed with diabetes.		
1.1 Percentage of Thai population aged 35-74 who had diabetes screening Blood glucose monitoring (target: not less than 90%)	56.30	59.34
1.2 Percentage of Thai population aged 35-74 years who have been screened and diagnosed with diabetes	1.14	0.99
Indicators 2 People who have been screened and diagnosed as hypertension		
1.1 Percentage of Thai population aged 35-74 who have been screened for hypertension (target: not less than 90%)	58.51	60.86

Indicators	Baseline FY2016 (%)	PortfolioFY 2017 (%)
1.2 Percentage of Thai population aged 35-74 years who were screened and diagnosed as hypertension	3.36	3.32
Indicator 3 Percentage of pregnant women receiving first antenatal care within 12 weeks (target: not less than 60 %)	48.39	53.50
Indicator 4 Cumulative coverage Cervical cancer screening in women 30-60 years within 5 years (target: not less than 80% in 5 years)	27.13	34.64
Indicator 5: Responsible use of antibiotics in outpatients		
1.1 Percentage of acute antibiotic use in outpatient Acute Diarrhea (target: not more than 40 %	43.92	39.08
1.2 Percentage use of antibiotics responsibly in outpatient respiratory infections (Respiratory Infection) (target: not more than 40 %)	37.98	32.92
Indicator 6: Reduction in hospital admission rates with outpatient treatment (ACSC) in epilepsy, COPD, asthma, diabetes and hypertension	6.58	1.87

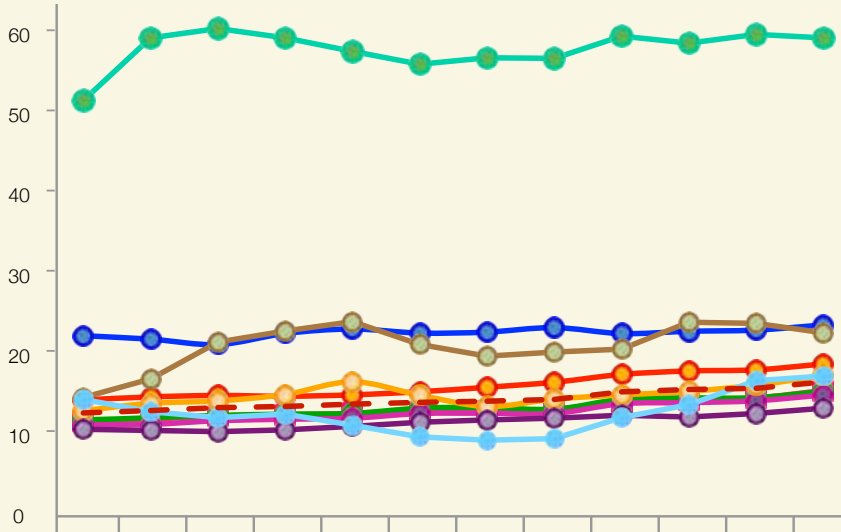
Source: *Bureau of Standards and Quality Support, National Science and Technology Development Agency (NSTDA). Information as of September 30, 2017. Processing as of October 31, 2017.*

Note:
1) *QOF's performance in the year 2016 is based on Q3, Q4 FY2016 and Q1, Q2. FY 2017 (April 1, 2016 - March 31, 2017)*
2) *Indicators 3 and 4 are indicators that continue to operate from FY 2016 under the Quality Payments and Primary Care*
3) *Cervical cancer screening in the year 2017 was 2,351 million, of which 2,786 million (84.25%) were allocated to cervical cancer screening. 5.304 million cervical cancer screening out of a total of 15,573 million. The second year in the cervical cancer screening plan in 5 years*

4.6.2 Service results

Inpatient services: Re-admission within 28 days of a previous discharge is another indicator reflecting quality of IP care or effectiveness of the last treatment. In FY2017, the average re-admission rate was 16.14%, of these 59.03% were from cancer-specific hospitals. University hospitals and regional hospitals had re-admission rates of 23.25% and 22.29% respectively (Figure 22).

Figure 22 Re-admission within 28 days of previous discharge (UCS patients) classified by type and affiliation of hospital, FY 2006-2017



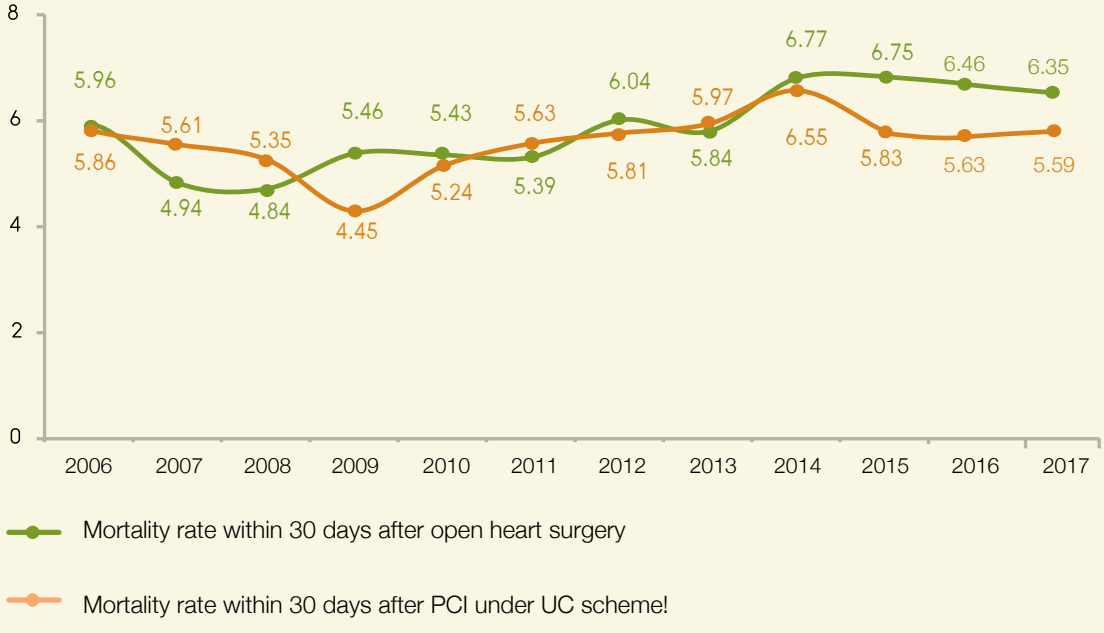
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Regional hosp.	13.89	14.27	14.46	14.35	14.53	14.92	15.48	16.10	17.07	17.51	17.65	18.38
Provincial hosp.	11.23	11.50	11.85	12.01	12.18	12.33	12.56	12.77	13.51	13.87	14.14	15.07
Community hosp.	11.37	11.67	11.97	12.12	12.22	12.86	12.97	12.73	13.97	14.14	14.18	14.96
Community hosp.	10.79	10.85	11.31	11.48	11.63	12.20	12.24	12.21	13.42	13.56	13.80	14.51
University hospital	21.88	21.48	20.80	22.19	22.74	22.24	22.36	22.92	22.17	22.46	22.61	23.25
Private hospital	12.55	13.48	13.78	14.58	16.16	14.49	13.08	14.00	14.52	14.96	15.75	16.92
Specialty hospital	14.20	16.49	21.13	22.49	23.63	20.83	19.35	19.84	20.22	23.61	23.44	22.29
Speciality hospital (Cancer)	51.25	59.07	60.22	59.04	57.39	55.82	56.58	56.53	59.29	58.38	59.51	59.03
Public non-MoPH hosp.	10.25	10.06	9.91	10.18	10.62	11.09	11.41	11.59	11.96	11.73	12.23	12.88
Public autonomous hosp.	13.97	12.42	11.71	12.16	10.76	9.29	8.88	9.05	11.72	13.32	16.26	16.91
Total	12.27	12.58	12.92	13.08	13.35	13.62	13.75	13.93	14.87	15.18	15.35	16.14

Source: *Inpatient Information (IP-research) 2006-2017 the Office of Information Assurance process as January 2018, the Bureau of Information Analysis and evaluation of health outcomes NHSO.*

Note:
1) Use improved status information to see the quality of the distribution plan.
2) Can not distinguish planned or unplanned patients from inpatient data
3) Rehabilitation at the Inpatient Department. Maybe not the same disease

Fatality rate within 30 days of treatment is one of the indicators that are used to reflect quality of care in a health system. Death within 30 days of their last admission in heart disease patients receiving open heart surgery or PCI procedures during FY2006-2017 remained relatively stable which reflects service quality. However, there are other contributing factors, such as delays and/or health care behaviors; also disease related complications. (Figure 23)

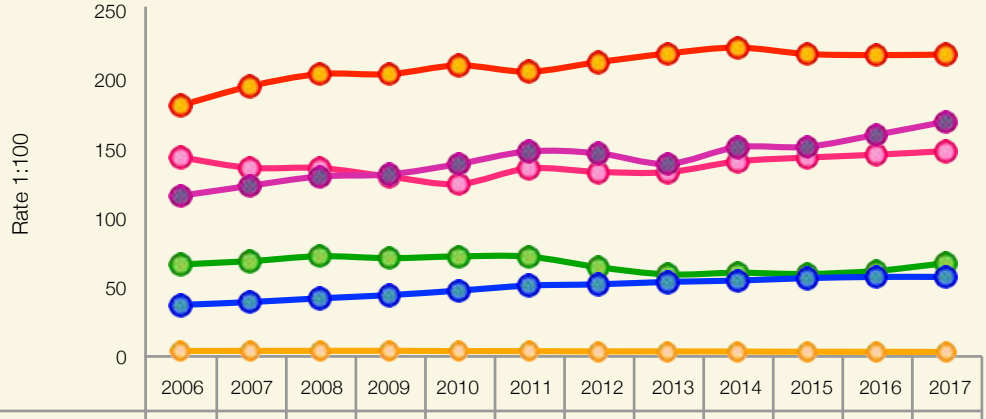
Figure 23 Fatality within 30 days of last admission in heart patients receiving open heart surgery or PCI procedures, FY2006-2017



Source: *NHSO Health Service Indicator (H0301). As of September 30, 2017, the Bureau of Information Security Administration, as of January 2018, NHSO.*

The rate of hospitalization for patients with ambulatory care sensitivity (ACSC) reflects service performance, quality of service and the effectiveness of OP treatment to control the onset of chronic diseases. Diseases in the ACSC group include DM, hypertension, asthma, chronic obstructive pulmonary diseases (COPD), epilepsy, and heart failure with pulmonary emphysema condition. Data from the UCS from FY2006 to FY2017 showed that admission rates of DM, COPD and epilepsy increased, indicating a need for improved disease control in OP settings, but rates of asthma and heart failure with pulmonary emphysema conditions decreased; the rate of HT tended to be stable (Figure 24).

Figure 24 UCS Admission rates for ACSC FY 2006- 2017

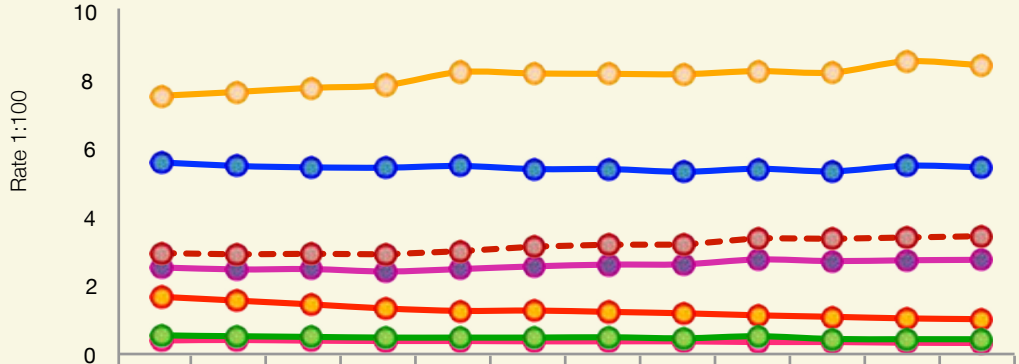


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
DM	178.56	192.47	201.27	201.24	207.51	203.07	209.88	216.13	220.45	215.82	215.02	215.39
HT	141.02	133.54	133.39	127.18	121.84	133.03	130.60	130.38	138.16	140.94	143.02	145.63
Asthma	63.88	66.07	69.63	68.24	69.52	69.33	61.79	56.49	57.67	56.79	59.06	64.61
COPD	113.20	120.55	127.26	128.79	136.33	145.37	144.05	136.43	148.38	148.75	157.43	166.96
Epilepsy	34.44	36.48	39.21	41.52	44.79	48.37	49.32	51.08	52.05	53.80	54.67	57.25
Heart failure	1.17	1.23	1.24	1.28	1.08	1.03	0.85	0.88	0.73	0.60	0.55	0.44

Source 1) *NHSO Health Service Indicator (H0301) Data as of September 30, 2017, Office of Information Security Administration, as of January 2018, analyzed by the Office of Information and Evaluation of Health Care*
2) *Inpatient Info FY 2006-2017, as of January 2018, NHSO.*

Health outcomes of inpatient services: For overall outcome of IP services, fatality rates in hospitals are not only an indicator of disease severity but also can be used as an indicator to reflect efficiency and quality of care as well as disease monitoring in the catchment area. Figure 25 shows fatality rates in hospitals of patients under the UCS during FY2006-2017. The mortality rate is in the range of 2.79% - 3.33%. In FY 2017, the 70+ and the 60-69 age groups have the highest mortality rates of 8.31% and 5.33% respectively.

Figure 25 UCS Fatality rates classified by age group FY2006-2017



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
< 1 year	1.55	1.44	1.33	1.21	1.14	1.15	1.11	1.07	1.01	0.97	0.92	0.90
1 – 4 year	0.28	0.29	0.27	0.26	0.26	0.25	0.25	0.25	0.23	0.23	0.21	0.20
5- 14 year	0.42	0.40	0.38	0.36	0.36	0.36	0.37	0.34	0.40	0.32	0.31	0.31
15 – 59 year	2.41	2.35	2.36	2.29	2.36	2.44	2.49	2.50	2.64	2.59	2.62	2.63
60 – 69 year	5.48	5.37	5.33	5.32	5.37	5.28	5.28	5.20	5.29	5.21	5.38	5.33
More than 70 year	7.42	7.53	7.65	7.73	8.11	8.07	8.06	8.05	8.14	8.10	8.42	8.31
total	2.82	2.79	2.81	2.79	2.88	3.01	3.07	3.08	3.26	3.24	3.27	3.33

Source: *Inpatient Information FY 2006-2017, Bureau of Information Security Administration, as of January 2018, Information and Healthcare Agency*

Note: *mortality rate in patients less than 1 year excluding well-being (Z380)*

5. Protection of Rights, Local / partner networks involvement and satisfaction levels

5.1 Protection of Rights

To protect the consumer's rights regarding the use of and access to health services, NHSO opened various channels for inquiries, complaints, and coordination through hotlines (1330), letters, fax, e-mail, or direct contact. In FY2015, there were 764,887 cases, divided into:

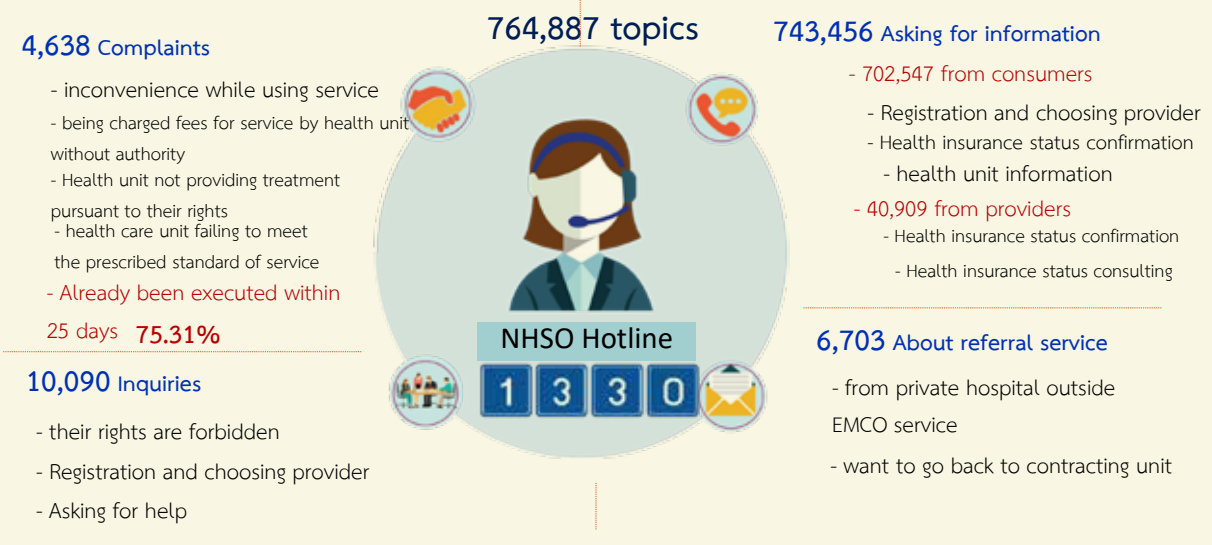
1) 743,456 Inquiries, 702,547 by consumers, 40,909 by providers;

2) Complaints related to general management 4,638;

3) Complaints related to quality of care 10,090; and

4) Co-ordination for referral 6,703 cases (Diagram 16)

Diagram 16 Inquiries, complaints, and referrals serviced FY2017



Source: NHSO Information as of September 30, 2017

5.1.1 Inquiry services

In the FY2017, there was a total 702,547 inquiries, of which 676,215 (96.25%) concerned UCS. There were 322,765 (47.73%) inquiries about their rights; 151,386 (22.39%) about their rights and access to services; and 143,936 (21.29%) about registration and service unit selection (Table 10)

Table 10 Inquiries made by consumers 2013-1017

Callers & Issues	2013	2014	2015	2016	2017
1. Consumers in UCS	557,690	512,490	410,140	504,239	676,215
1.1 Registration & choosing provider	136,596	94,798	85,267	100,393	151,386
1.2 Benefit package & accessing to it	117,989	114,362	89,808	85,933	143,936
1.3 Early payment for damage from health service in accordance with section 41 of the act	259	301	239	261	173
1.4 Health insurance status confirmation	244,245	244,111	179,920	256,760	322,765
1.5 Hospital information	19,106	15,793	14,790	16,471	16,884
1.6 Organization information	3,076	3,869	2,352	2,987	3,166
1.7 Emergency Medical Claim for All (UCEP)	7,359	10,321	6,535	11,368	9,606
1.8 Others (news, other organizations, follow-up cases, etc.)	29,060	28,935	31,229	30,066	28,299
2. Consumers in CSMBS	5,290	5,350	4,082	3,743	4,459
3. Consumers in SSS	11,285	12,175	14,440	10,622	12,661
4. Consumers in Local Administrative Organization Scheme (LAOS)	512	11,294	4,253	7,488	9,212
Total	**574,777**	**541,309**	**432,915**	**526,092**	**702,547**

Source: *Public Information and Rights Protection Office 30 September 2017*

Note: *1) NHSO Emergency Funds Policy April 1, 2012 and Year 2017 Start Crisis Emergency Policy All rights reserved (UCEP)*
2) NHSO Starts Local Social Policy October 1, 2014

In the FY2017, the total number of inquiries from providers was 40,909, of which 36,529 (89.29%) cocnerned UCS. Of these, 11,911 (32.61%) concerned data verification; 11,758 (32.19%) were general inquiries such as relevant news, matters of other organizations; and 3,425 (9.38%) regarding registration and service unit selection (Table 11)

Table 11 Service inquiries by service providers FY 2013-2017.

Schemes and Issues	2556	2557	2558	2559	2560
1. Providers in UCS	36,407	33,586	29,515	30,898	36,529
1.1 Registration & choosing provider	2,333	4,239	5,088	3,996	3,425
1.2 Benefit package	4,354	3,407	3,296	3,750	4,822
1.3 Receiving refund	491	637	665	736	1,368
1.4 Early payment for damage from health service in accordance with section 41 of the act	27	27	29	22	5
1.5 Early payment for damage from health service in accordance with section 18(4) of the act	22	79	18	38	12
1.6 Health insurance status confirmation	18,988	15,605	9,895	11,243	11,911
1.7 Hospital information	415	433	409	448	460
1.8 Organization information	444	651	482	523	617
1.9 Emergency Medical Claim for All (UCEP)	308	390	367	460	645
1.10 System and program issues	-	-	-	-	1,506
1.11 Others (news, other organizations, follow-up cases, etc.)	9,025	8,118	9,266	9,682	11,758
2 Providers in CSMBS	555	1,476	1,207	1,071	1,612
3. Providers in SSS	678	775	1,014	899	1,334
4. Providers in LAOS	93	6,114	2,539	1,333	1,434
Total	37,733	41,951	34,275	34,201	40,909

Source: *Public Information and Rights Protection Office 30 September 2017*

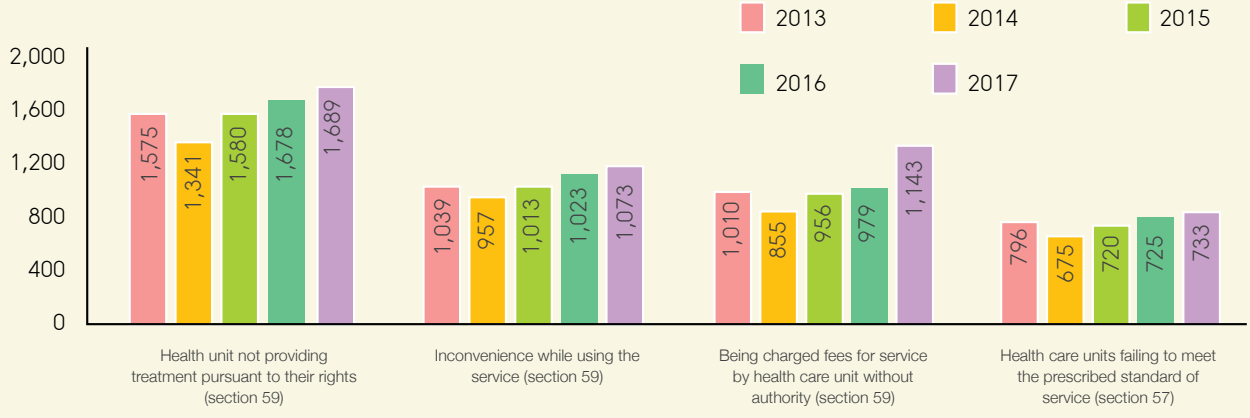
Note: *1) NHSO Emergency Funds Policy April 1, 2012 and Year 2017 Start Crisis Emergency Policy All rights reserved (UCEP)*
2) NHSO Starts Local Social Policy October 1, 2014

5.1.2 Complaints services

Receiving and responding to complaints are mechanisms of consumer rights protection, a method of indicating and fixing problems in the health service system for better communication between consumers and providers, improvement and development of the system.

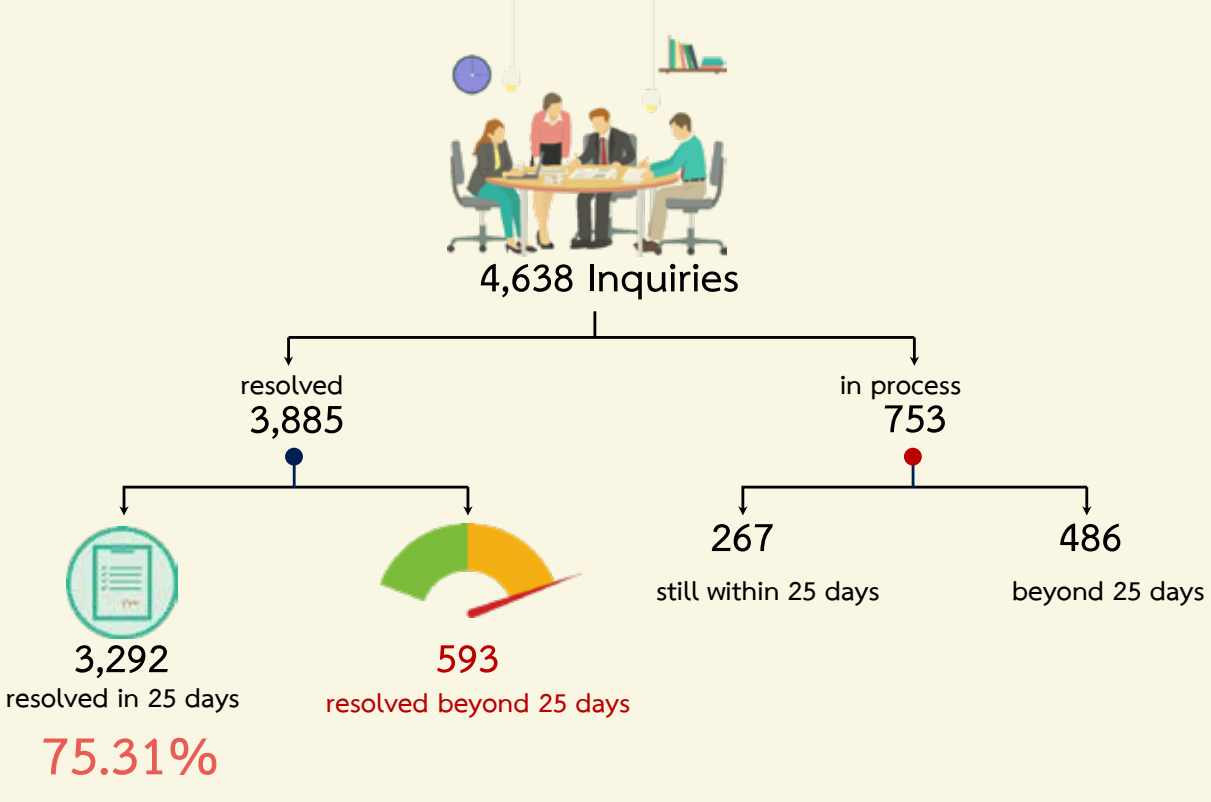
In the FY2017, NHSO received 4,638 complaints, of these 1,689 (36.42%) complaints were about “health unit not providing treatment pursuant to their rights” (section 59); 1,143 (24.64%) were about “inconvenience while using the service”; 1073 (23.16%) were about “being charged fees for service by health care unit without authority”; and 733 (15.80%) were about “health care units failing to meet the prescribed standard of service” (section 57) (Figure 26). The number of complaints resolved was 3885, of which 3,292 (75.31%) were resolved within 25 working days (Diagram 17) reducing the burden on the system and s such making it faster.

Figure 26 Complaints serviced classified by issue FY 2013-2017



Source: *NHSO, Information as of September 30, 2017*

Diagram 17 Number and percentage of complaints resolved within 25 business days FY 2017.



Source: *NHSO, Information as of September 30, 2017*

5.1.3 Servicing of complaints

In the FY2017, the NHSO received 10,090 petitions, of these 9,872 (97.84%) were UCS related. Problems concerning benefit package status amounted to 6,605 (66.91%), 1,202 (12.18%) regarding service unit registration / selection; and 1,117 (11.31%) requests for help / further information (Table 12).

Table 12 Complaints serviced FY2013-2017

Complaints	2013	2014	2015	2016	2017
1. UCS	6,012	10,100	13,408	10,722	9,872
1.1 registration and selecting service unit	779	767	1,340	808	1,202
1.2 having right status problem	3,373	7,343	8,474	8,053	6,605
1.3 asking for help	991	1,040	1,604	961	1,117
1.4 consult/recommend	504	464	834	371	467
1.5 being refused to use EMCO service	362	224	209	262	131
1.6 etc.	3	262	947	267	350
2. CSMBS	499	510	312	140	96
3. SSS	105	100	158	78	68
4. LAOs	-	319	147	95	54
Total	**6,616**	**11,029**	**14,025**	**11,035**	**10,090**

Source: *Public Information and Rights Protection Office as of 30 September 2017*
Note: *1) NHSO Emergency Funds Policy April 1, 2012 and Year 2017 Start Crisis Emergency Policy All rights reserved (UCEP)*
2) NHSO Starts Local Social Policy October 1, 2014

5.1.4 Patient referral services

In the FY2017, the coordination center for referring accident & emergency cases had received 6,703 patient referral requests, of these 6,510 cases (97.12%) were in UCS, 5,790 cases (88.94%) were from private hospitals outside EMCO; 438 cases (6.73%) were from under-competency service units. Moreover, this center coordinated referral patients in other schemes and patients without health insurance. The reasons for terminating some referral cases because they were better, they wanted to go home, they died, they changed their decision, their conditions were too unstable (Table 13).

Table 13 Patient referral service usage FY2013-2017

Schemes & Reasons for referral	2013	2014	2015	2016	2017
1. Refer to UCS	3,255	2,832	2,891	3,340	6,510
1.1 being in private hospitals outside EMCO service	2,537	2,215	2,177	2,483	5,790
1.2 no bed	140	120	120	171	162
1.3 not enough competency	505	447	516	600	438
1.4 want to go back to contracting unit	73	50	78	86	115
1.5 etc, Relatives want to find a hospital near home.	-	-	-	-	5
2. Refer to CSMBS	263	184	144	199	133
3. Refer to SSS	64	34	51	34	22
4. Refer to LAOs	-	17	10	4	29
5. Etc,	71	23	21	28	9
Total	**3,653**	**3,090**	**3,117**	**3,605**	**6,703**

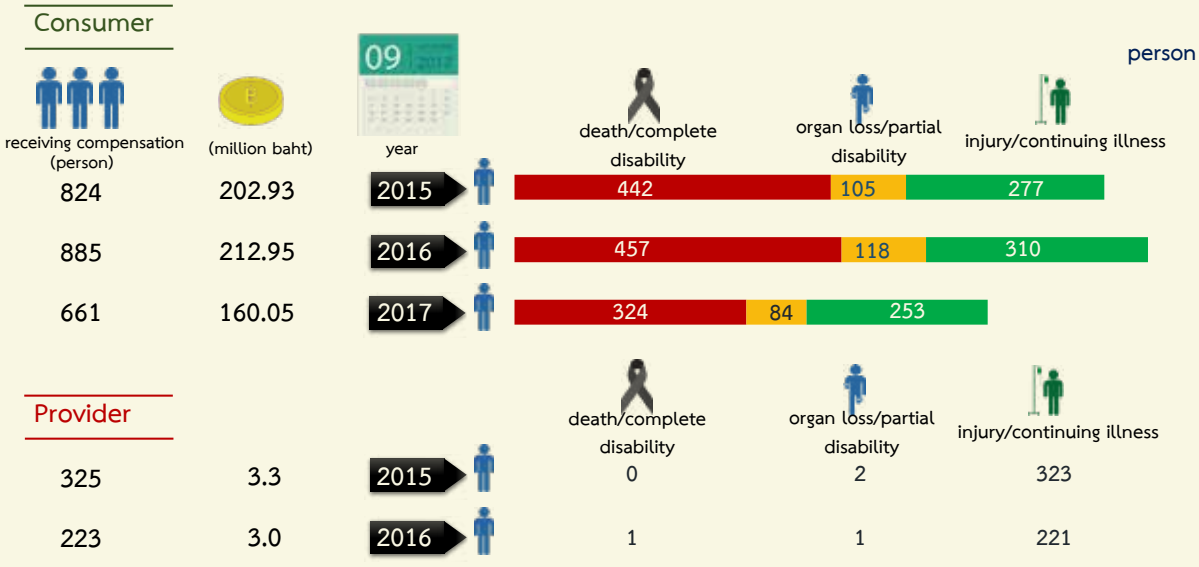
Source: *Consumer rights protection data, NHSO, 30 September 2017*
Note: *1) NHSO Starts 3 Emergency Funds Policy April 1, 2012 and in the year 2017 began UCEP*
2) NHSO Starts Local Social Policy October 1, 2014

5.1.5 Compensation and Healthcare service negligence.

Section 41 of the National Health Security Act concerns the payment of preliminary aid in cases where a beneficiary is damaged by medical treatment provided by a service unit.

In FY2017, of the 823 complaints lodged, 661 (80,32%) people received compensation, totaling THB160.05 million. Of these cases, 324 (49.02%) were compensated an amount totaling THB116.01 million due to death or permanent disability; 253 (38.28%) were compensated THB18.30 million for injury or continuing illness; and 84 (12.71%) were compensated THB18.23 million for loss of organ or partial disability (Diagram 18)

Diagram 18 Number of requests for compensation classified by level of injury FY 2015-2017.



Source *Information on health insurance systems at the local or regional level. Information Security Administration as of September 30, 2017, analyzed by NHSO*

5.2 Participation

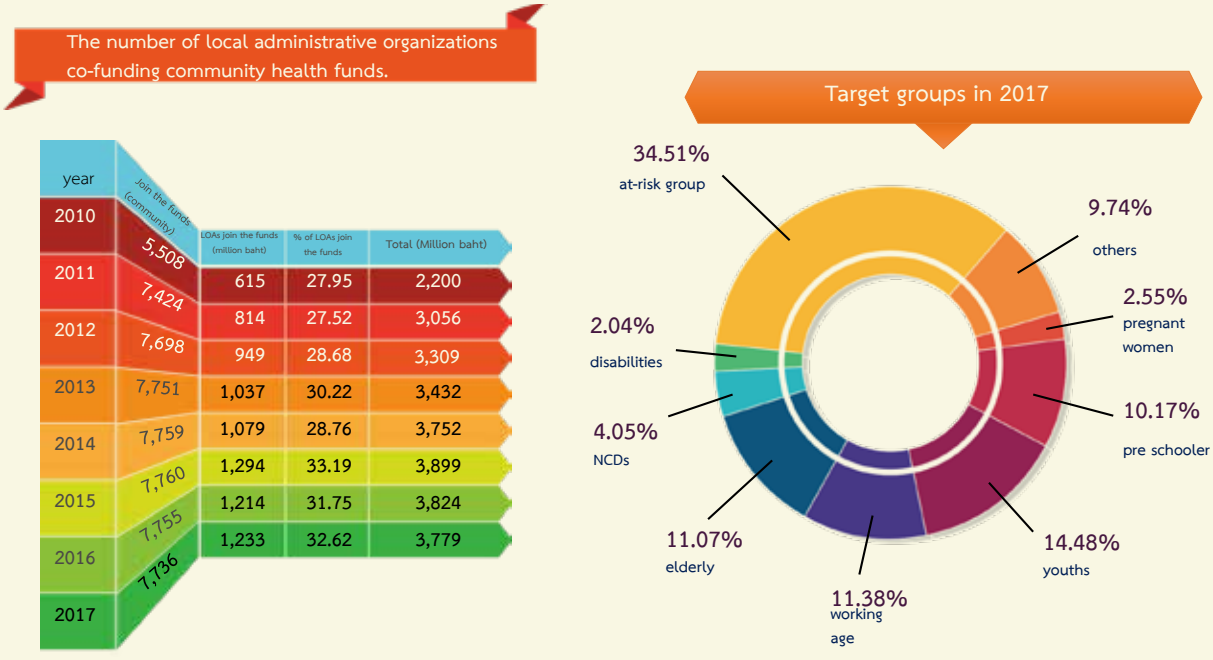
5.2.1 Local participation

Promoting local community participation is one of the key mechanisms, in accordance with Section 47 of the National Health Security Act, to respond to health needs of a local community by including local community in the decision making and co-funding of health-related programs.

In 2017 the number of Local Administrative Organizations/ LAOs (Subdistrict Administrative Organizations/ SAOs and Subdistrict Municipalities/ SMs) co-funding community health security funds was 7,736 (99.49%) from 7,776 subdistricts. The budget of The Community Health Security Fund in FY2017 was THB3,779 million (including interest). This amount came from three main sources: the NHSO, Local Administrative Organizations, and others (such as interest, consumers and the community). Funding from the NHSO was THB2,515 million (66.54%); from local administrative organizations THB1,233 million (32.62%); and from the community and others THB32 million (0.84%). Of the the total fund THB3,412.65 million (90.31%) was used.

Classified by target groups, a budget of 35.51% was used for people at risk. The budgets for the youth, the elderly, and the working age were 14.48%, 11.38% and 11.07% respectively as shown in Diagram 19.

Diagram 19 Health related activities supported by community health security funds classified by specific groups, FY2010-2017.



Source: *Information on health insurance systems at the local or regional level. Information Security Administration as of September 30, 2017, NHSO.*

5.2.2 Participation of network partners

Support for the network of rights protection in the national health insurance system include:

1) Health service centers in service units: 885 hospitals (117 general hospitals, 732 community hospitals, 34 state hospitals outside the MoPH, and 2 private hospitals) provide channels to ensure the rights of both service providers and service recipients are respected and protected. This helps reduce conflict in the health service system. (Source: Promotion of participation NHSO as of September 30th FY2017);

2) There are Coordination Centers for Public Health in 146 locations across 77 provinces They form a partnership operating under a joint development strategy and management for the protection of rights. These foster the development of quality standards for public health services; and creates partnerships and links to public sector partners, local government and professional organizations. (Source: Bureau of Insurance Information, NHSO as of September 30th FY2017); and

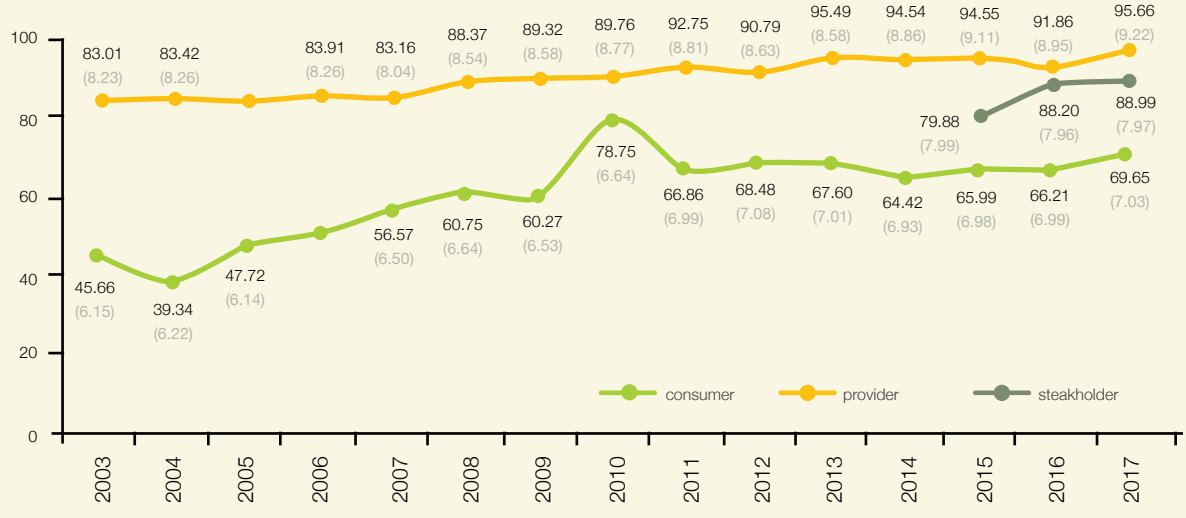
3) There are 114 Complaints units across 76 provinces (Except Mae Hong Son Province). They act independently of the complainant in accordance with Section 50(5). This collaboration between the public sector and the National Health Security Office is an important channel for the protection of the people's rights and provides basic assistance to the recipients of medical malpractice and other less serious issues. (Source: Bureau of Insurance Information, NHSO as of September 30th FY2017)

5.3 Satisfaction of service recipients and service providers.

Each year surveys are taken to assess satisfaction levels of both UCS consumers and Healthcare providers. Results indicated that the satisfaction level of consumers increased from 8.23 out of 10 (83.01%) in the FY2003 to 9.22 (95.66%) in FY2017. During the same period providers scores rose from 6.15 (45.66%) in FY2003 to 7.03 (69.65%) in FY 2017 (Figure 27)

There may be several factors that affect why UCS consumer satisfaction levels were higher than those of providers. However, from these results can be surmised that, although the UCS implementation is doing well at accommodating the needs of consumers, some areas of management need improving in order to better satisfy the providers. Whatever the changes, the benefit of the consumer must always come first.

Figure 27 Consumers' and providers' satisfaction scores, FY 2003-2017



Source: 1) *2003-2013 Survey by the Center for Academic Network for Observation and Research of Community Happiness Assumption University (May-Jun 2003, Apr-Jun 2004, Jun 2005, May-June 2006, Jun. - Jul 2007-2008, Aug - Sep 2009-2010, 9-25 Sep 2011, Aug - Sep 2012, Aug - 2013)*
2) *2014 surveyed by "NIDO Poll" Survey Center, July-September 2014*
3) *2015-2017 survey by the Institute for Social and Economic Research May-Aug 2015, May-August 2016, May-July 2017*

Note: *Percentage of satisfaction calculated from Respondents rated satisfaction from 7-10 points.*

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