

Opening the Doors to the Era of Smart Digital Government

The Virtual NHI Card: its History, Planning, Implementation, and Future Prospects

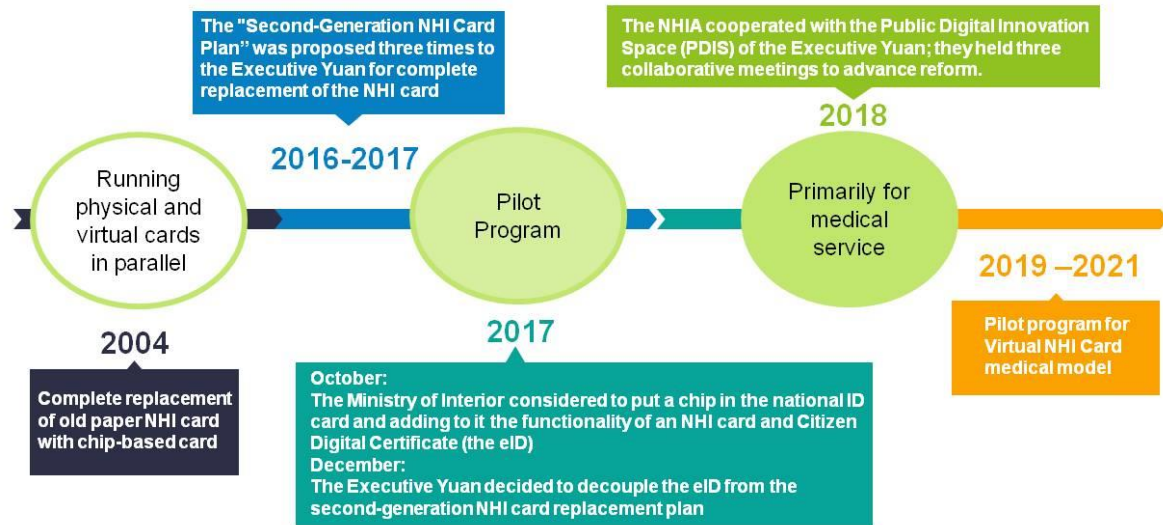
With the Virtual NHI card, no physical card needed for visiting a doctor

In 2004, the NHIA replaced its former paper card with the chip-based NHI card, which was a success applauded by many areas of society. Now, 18 years later, following mobile life and smart medicine policies in the move towards digital national development, the chip-based NHI card is also advancing digitally. In cooperation with the PDIS of the Executive Yuan, the NHIA held three collaborative meetings, on July 4, 2018, August 8, 2018, and November 26, 2018, to which it invited various groups from the public, doctors, pharmacists, nurses, IT personnel, as well as experts, scholars, and associations in the fields of law, human rights, and information security. The purpose of the meetings was, from a human-oriented mentality, to create mechanisms for dialogue between the government and the public and hear more of their opinions to find the solution that best suited them.

In the collaborative meetings, it was decided that the next-gen NHI cards would not include biometrics. The principles of its creation were as follows:

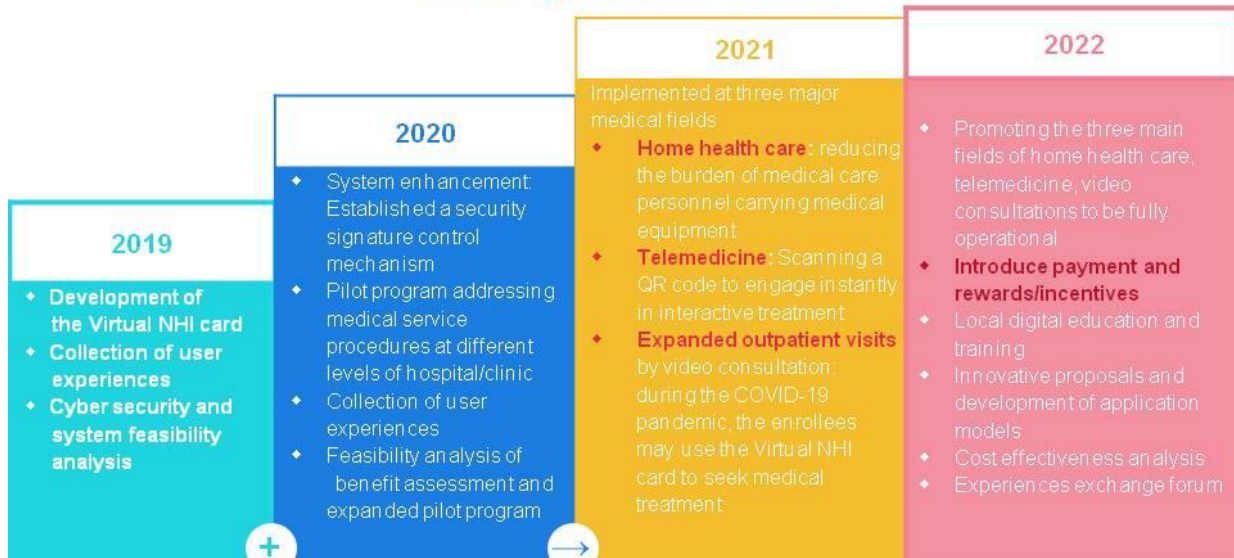
- I. Running physical and virtual cards in parallel: The physical NHI card remains in effect as the Virtual NHI card is gradually developed in parallel.
- II. Pilot Program: A pilot program of the Virtual NHI card is underway; the virtual card will not be fully operational until a pilot program succeeds.
- III. Primarily for medical service: The NHI card is mainly for medical purposes; that is, it does not incorporate other functions such as electronic payments.

After years of coordination,
the Virtual NHI medical model has come to fruition



Beginning in 2019, the NHIA conducted a pilot program of the Virtual NHI medical model; the pilot program included 500 enrollees seeking medical attention at various hospitals and clinics. The pilot program was expanded in 2020 to include different levels of hospitals and clinics, pharmacies, rehabilitation therapy institutions, home health care, and other diverse fields, with a total of 2,633 cases completed. Then, in 2021, it was further expanded to include the three fields where medical needs were not fully met, namely home health care, telemedicine, and video consultations. A total of 563 hospitals/clinics participated in the pilot program; 450 of them went online and successfully registered. As of the end of April 2022, about 83,000 enrollees have applied for a Virtual NHI card; 527 hospitals/clinics have gone online, and 5,000 cases records have been claimed.

Improve the system each year; expand number of participating hospitals/clinics
Address inconveniences from using physical NHI card
in non-typical medical fields



The characteristics of the Virtual NHI card including physical cards free, authorization, convenient and safe for medical services earned high marks of approval

The results of the pilot program in 2021 show how the general public (93% satisfied) and management of medical institutions (86%) highly approve of the Virtual NHI card policy. Front-line medical personnel and IT personnel were moderately satisfied (67%).

I. General public (93%):

They agree that online application is convenient, the authorization mechanism is not worrying, the personal information protection mechanism is secure; they are willing to recommend it to others, and they agree that the Virtual NHI card is in line with the trend for smart society.

II. Management of medical institutions (86%):

They agree that the personal information protection mechanism is secure, clinic efficiency is higher, system integration is easy, and personnel training is easy.

III. Medical personnel (67%):

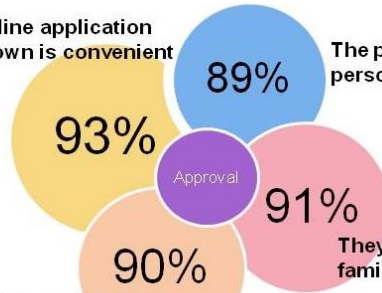
They agree that the personal information protection mechanism is secure, clinic efficiency is higher; however, there are worries that it will take time to help the public operate their mobile phones or bind and register their NHI App, which will affect the clinic service efficiency. Overall, they moderately approve of the policy.

IV. IT personnel (67%):

They agree that the Virtual NHI card reading speed is faster than that of the physical card, the personal information protection mechanism is secure, system integration is easy, and personnel training is easy; however, they worry about the quality of the Internet connections and costs of purchasing scanners.

Public approval of the Virtual NHI card is high.

Completing the online application process on one's own is convenient



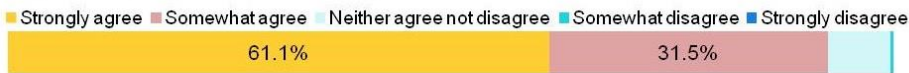
The protection mechanism of the personal data privacy is secure.

They are willing to recommend it to family/friends.

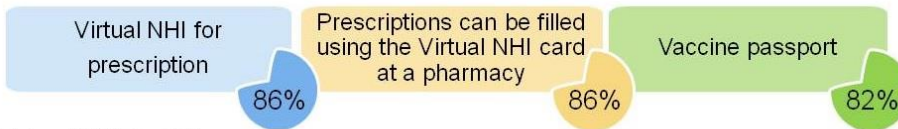
Authorization binding mechanism helps family members reach medical care

93% approve of using the Virtual NHI card
Fits with the trend for a smart society

Using the Virtual NHI card makes them feel like they are helping a "smart and digital" life:



Anticipation for medical applications to be combined with the Virtual NHI card in the future:

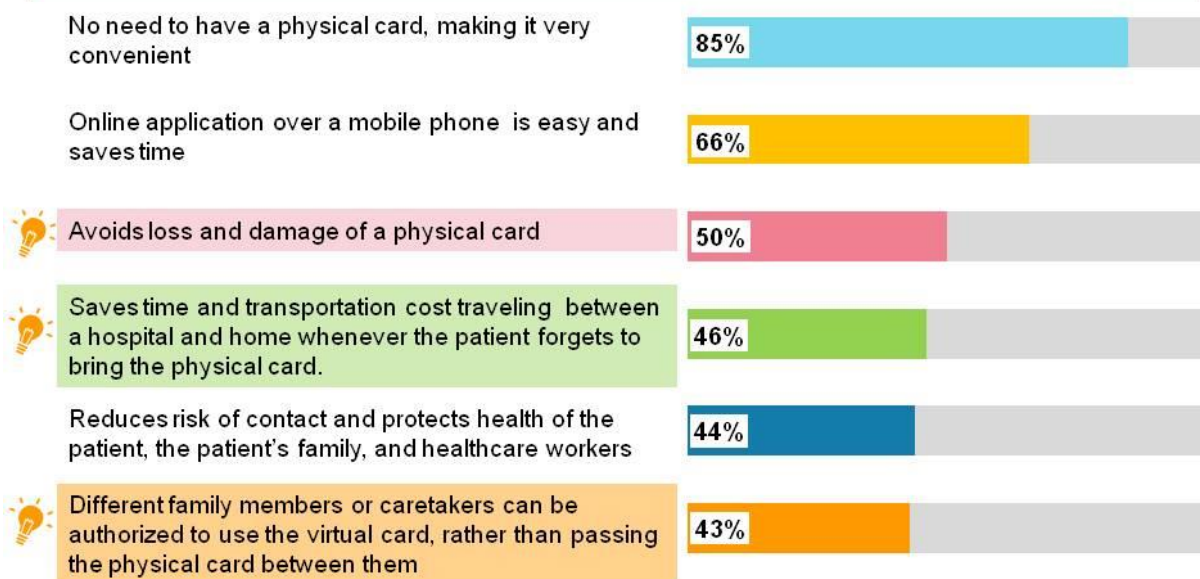


Virtual NHI Card User Survey

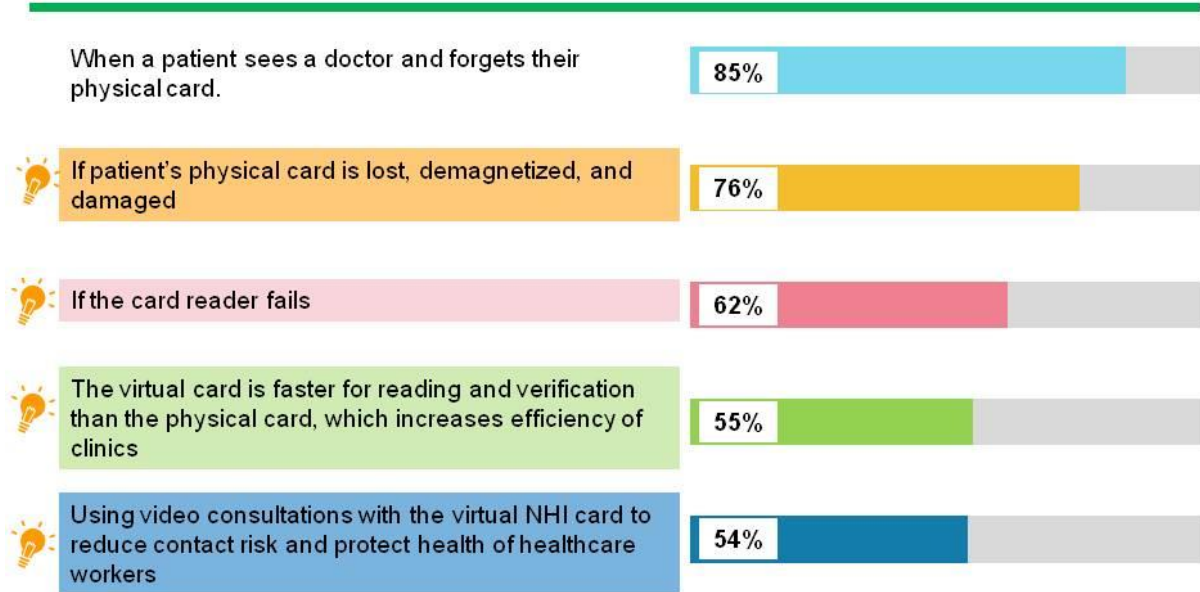
Over 90% agree (strongly agree, agree) that the online application process for the Virtual NHI card is easy



The public's favorite aspects of the Virtual NHI card



Virtual NHI card is helpful to medical staff



Digital application: using the Virtual NHI card has become a trend

The virtual NHI card has been comprehensively implemented in 2022 in three major fields of home health care, telemedicine, and video consultations. The purpose of the virtual NHI card implementation to realize smart medical care and digital governance, as well as to improve the convenience, accessibility, and quality of medical services for people living in rural areas, mountains, and outlying islands. In addition, with the introduction of payment and incentives, medical institutions are guided and encouraged to accept the Virtual NHI card for medical services.

Planning

- I. Conduct virtual NHI card education and training for people living in remote areas, indigenous peoples, and people living in mountains and outlying islands.
- II. Provide innovative proposals and application plans for the Virtual NHI card in diverse medical fields.
- III. Conduct cost effectiveness analysis of the Virtual NHI Card policy.

Innovative proposals and application models

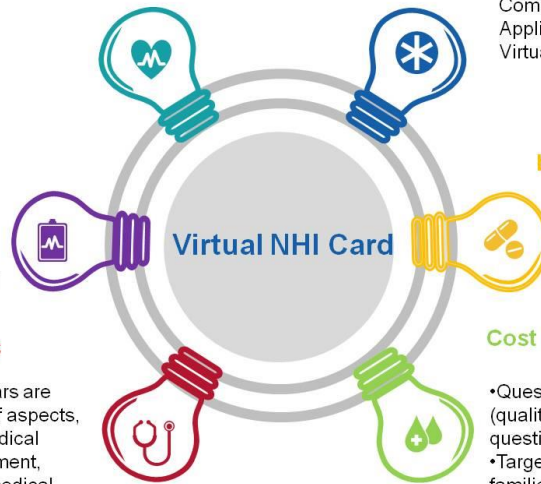
Functional positioning
Convenient services

Presentation of implementation results

- Hospitals/clinics with good implementation results share their experiences and results with the public
- Display how to use virtual NHI card for video consultations

Three expert forums

Opinions of experts and scholars are collected from a wide variety of aspects, including the overall policy, medical services and medical management, people's experiences of using medical services, information system design and cyber security, and law.



Local education and training

Communication on Virtual NHI card policy
Application and binding operations for the Virtual NHI card

Interventions to remove barriers to Virtual NHI card

- Provide the operations manual
- Provide flyers, posters, brief intros
- Make documentary films

Cost effectiveness analysis of interventions

- Questionnaire design on thematic literacy (qualitative interviews, quantitative questionnaire)
- Targets of the survey: the public and their families, healthcare providers, medical IT personnel
- At least 3,000 copies; also, a report on the overall analysis results will be submitted.

Implementing Smart Government Supporting National Digital Transformation

- ✓ Accelerate release of data and drive reuse of data
- ✓ Utilize data from the people to create a new vision of governance
- ✓ Connecting with technological applications for a new era of innovative services
- ✓ Building an accurate and reliable digital infrastructure environment

Listening to diverse opinions, use a people-oriented design mentality

- Government departments
- The general public
- Healthcare providers
- IT personnel
- Experts and scholars

Service-oriented smart government 2.0 promotion plan (2021-2025)



Forward-Looking Infrastructure Development Program

Digital Infrastructure

- 5G infrastructure
- Shorten 5G digital gap for rural areas
- Promote digital public service

Pilot program of contactless NHI card by NHIA Central Division