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KEY POINTS

- The possession of personal official identification is critical to an individual's access to government services, and the exercise of his or her rights as a citizen. Civil registration signifies that the state recognizes the unique existence of every citizen; linking this with the national ID system is the foundation of a secure legal identity for every person.
- In the health sector, the unique identification of patients is crucial to ensure that every person in a country has access to health care. Unique identification for health purposes improves health outcomes by tracking an individual's interactions at every point within the health system; the overarching goal of achieving universal health coverage (UHC) cannot be achieved without unique identification.
- A recent situation analysis of available health identifiers in Cambodia, the Lao People's Democratic Republic (Lao PDR), and Myanmar found significant fragmentation and a pressing need for harmonizing the multiple identifiers that now exist.
- Low- and middle-income countries can begin to overcome the challenges of disparate identification mechanisms by creating a robust digital ID system. If this system is designed at the outset to be highly interoperable and scalable, it can generate substantial savings for the government, citizens, and the private sector.
- As personal information databases continue to migrate from paper to electronic records, the protection of individual privacy rights is all the more important as these databases are becoming more susceptible to hacking and misuse.
- The experience of countries already using unique identifiers shows that health identification requires a conducive legal environment and works best under the administration of a single independent agency.
- To reap the benefits of a unique health identifier, countries must make smart ICT infrastructure investments, ensuring that disparate parts of the health system use standards-based interoperable software.

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ON THE ROAD TO UNIVERSAL HEALTH COVERAGE: EVERY PERSON MATTERS

UNIQUE IDENTIFIERS FOR EVERY CITIZEN ARE KEY TO AN EFFECTIVE AND EQUITABLE HEALTH SYSTEM

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Target audiences

- Parliamentarians and executive branch decision makers
- Ministry of Finance and other relevant line-ministry decision makers
- Health sector policy makers
- Ministry of Health department directors
- Health systems managers
- Health systems ICT implementers
- Health insurance funds
- Health care researchers
- International development organizations

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National Identity System

A population register is a national central database storing the main data about a country's population.

It is the central data hub of an integrated population identification system and can work to ensure information exchange between civil registration and vital statistics, national citizen ID systems, passport systems, and residential record systems.

Health Identity System

A health care–focused client registry plays the role of a list of local IDs cross-referenced to a master ID, and it is the manager of the demographic information associated with the master ID needed for health purposes. Connected applications can interact with the client registry using the health informatics standards designed for maintaining and fetching data and for managing key work flow. A health client registry can include individuals who are not eligible for inclusion in a citizen ID registry, such as landed immigrants and refugees.

INTRODUCTION

In modern society, the possession of a personal official identification (ID) is critical to an individual's access to government services, and social and economic programs. From voting to receipt of social benefits, the possession of an official ID determines whether or not an individual may fully exercise his or her rights as a citizen. For low- and middle-income countries, the widespread lack of such an ID is a significant stumbling block to economic growth and the development of solid social protection.

A unique ID for every citizen is a national public good. At its most fundamental level of civil registration, the creation of a number or code may come into being at a person's birth and stay with him or her from cradle to grave, signifying that the state recognizes the unique existence of every citizen. By ensuring that the same identifier is used across the multiple intersections between state and individual, including the provision of health care, education, and social services, unique identifiers go far beyond being a mere counting system.

Within the health system, unique identification is key to ensuring that information about any person can be shared securely and confidentially, both internally and beyond. This deceptively simple instrument has far-reaching implications for health service provision. The unique identification of patients is a crucial enabler, ensuring that every person in a country can access health care. It is needed for patient-centric, high-quality care and social health insurance schemes. The overarching goal of achieving universal health coverage (UHC) cannot be achieved without it.

WHY UNIQUE IDENTIFICATION IS ESSENTIAL FOR EFFECTIVE HEALTH SYSTEMS

In many low- and middle-income countries, the provision of health services is a complex and typically fragmented process, involving a multitude of health care organizations and funding agencies. These include state and private health care facilities, both within integrated delivery systems and as stand-alone entities. Any one individual or family may interact with public and private physicians and other health care providers, clinics, hospitals, and pharmacies. Health services may be provided through private health plans, managed care organizations, nongovernment organizations (NGOs), and public programs, with individuals receiving care from one or more of them during their lives. Payment mechanisms include state entities, NGOs, social health insurance bodies, and the private insurance sector.

Population aging and increasing longevity create pressure on health system implementers to manage large amounts of information in different locations across a long period of time. There is also increasing pressure on countries to fund vertical disease programs that were previously donor funded, and this requires identification of individuals. These data must be easily transferable among an increasing variety of health care providers. For the vast majority of people today, health records no longer consist of a paper file in a single provider's office. Rather, they increasingly consist of many electronic and nonelectronic records as patients visit multiple providers, primary care providers refer patients to specialists, health plans coordinate benefits with other health plans, and providers submit reimbursement claims.

During an individual's life he or she could interact with many different entities, each routinely assigning its own identifiers within its own record systems. Typically, these identifiers differ across organizations, while the delivery and administration of health care frequently crosses organizational boundaries. This is also the case in many vertical disease programs, often donor funded, which have their own databases and patient identification systems. In many health systems, organizations struggle to communicate and share data that would be beneficial to the patient. In an environment of multiple care providers, being able to identify an individual uniquely is an essential part of the delivery and administration of health care. Without it, the health system's efficiency is compromised. It is less able to offer continuity of care; conduct case investigation in the context of infectious diseases; maintain accurate record keeping; ensure proper claim reimbursement and prompt payment; and detect fraud, waste, and abuse.

For the vast majority of people today, health records no longer consist of a paper file in a single provider's office.

A recent situation analysis of available health identifiers in Cambodia, the Lao People's Democratic Republic (Lao PDR; Box 1), and Myanmar found significant fragmentation, and a pressing need for harmonizing the multiple identifiers that now exist within the health sector.[5] In Cambodia and Lao PDR in particular, fragmentation is widespread among health service providers and purchasers. It is common practice for providers and purchasers to use different identifiers for the same individual.

Harmonizing the multiple identifiers in the health sector can streamline both delivery and administration of health care, improving quality while containing costs.

Box 1. Lao PDR: Merging Health Identifiers for Better Care

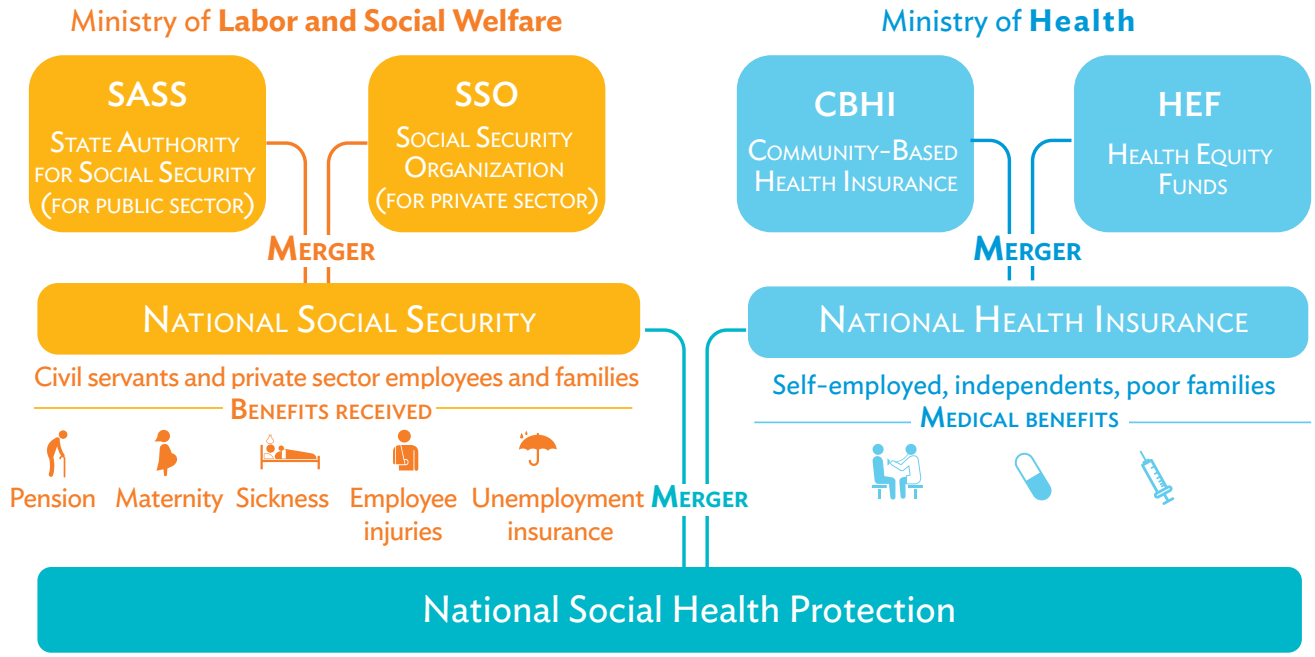
Lao PDR has four different health insurance schemes, each running its own membership database and systems for claim recording and processing, accounting, and financial reporting. Each organization identifies its members separately via different ID numbers, insurance cards, and biometrics.

Within the framework of the Lao Social Security Law (2013), and Decree No. 470/PM (2012), the two social security organizations—the Social Security Office and the State Authority for Social Security—were recently merged and became the National Social Security Fund (NSSF). The government has stated its intent to develop a national member database, which can be used by all social security and social health protection schemes. However, the various existing identification mechanisms pose challenges to the technical merger.

According to international standards, a unique health ID must be uniquely linked to a core set of personally identifiable information for an individual, and this set should be standardized and represented in a manner consistent with national practice. A national health ID and health data standards, defined by the Lao PDR government, could be a first step toward a core health data set and for health purchasers.

Linking the social security number to a national health ID would allow members to make a smooth transition from one health insurance fund to another without data duplication (Figure 1). A system based on unique IDs would also facilitate the collection of social health insurance contributions, speed up reimbursement, and enable the introduction of mobile payment systems.

Figure 1: Structure of Schemes after the Merger



Source: Authors.

[5] ADB. 2014. *Regional–Capacity Development Technical Assistance on Results for Malaria Elimination and Control of Communicable Disease Threats in Asia and the Pacific.* Manila.

HARMONIZED UNIQUE IDENTIFIERS: A PATH TO BETTER-QUALITY HEALTH CARE DELIVERY

For health system implementers, the benefits of adopting a unique identifier for individuals are obvious. Communicable disease prevention programs, vaccination programs, health insurance funds, health equity funds, and low-income household support programs, for example, all greatly benefit from being able to use a unique health identifier. Administrative workload and costs are reduced, access to critical health information is speeded up, and the exchange of electronic data becomes more efficient.

Good quality of care depends on the provider's ability to synthesize information from a variety of sources into an accurate picture of the patient's state of health. A unique identifier facilitates the rapid and accurate identification of the proper records and their integration, essential to the provision of high-quality, patient-centered care. Moreover, the constellation of personal attributes commonly used to identify an individual is rarely captured in the same manner by all entities. In a diverse system of health care, only a common and unique identifier can achieve that uniformity. In addition, the lack of a unique identifier for each individual is an obstacle to the clear allocation of funds to the various health care implementers. Health purchasers and health providers need to work as partners to make patient or member identification a core element of service provision.

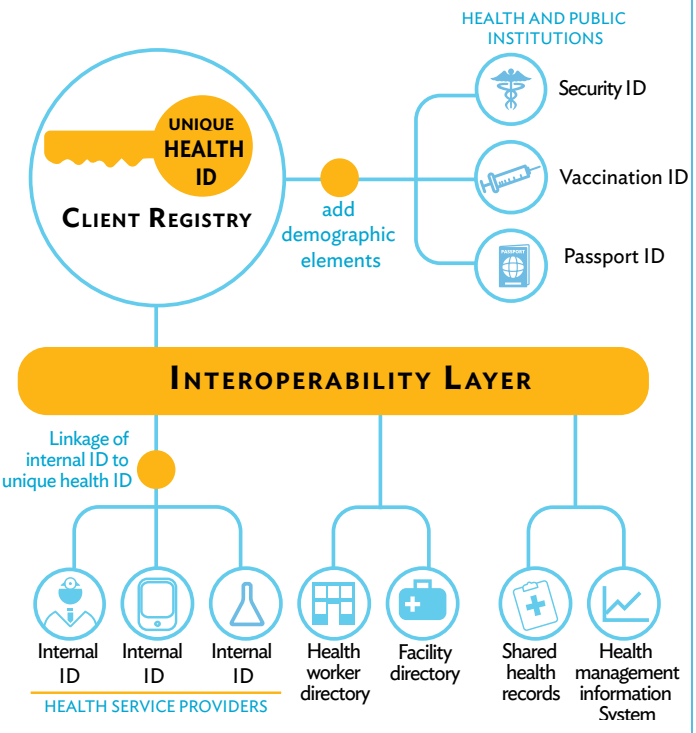
The need to integrate identity systems has been lost in the past as donors and development partners supported identification initiatives as components of vertical programs with a particular purpose, such as certain thematic disease programs, and not necessarily comprehensive social protection or financial inclusion programs. While financing was targeted at strengthening government capacity and building an enabling environment, scant attention was given to integration and the need for a coherent approach to unique identification.

AVOIDANCE OF DATA SILOS AND PARALLEL INVESTMENTS

Low- and middle-income countries can begin to overcome the challenges of disparate identification mechanisms by creating a robust digital ID system. If this system is designed at the outset to be highly interoperable and scalable, it can generate substantial savings for the government, citizens, and the private sector. Conversely, disparate initiatives taken by different government departments and fragmented investments in digital ID systems lead to waste and duplication (Figure 2).

Pooled approaches and linked ID numbers at the regional or subregional level can also help strengthen the value proposition of a digital ID program. However, these approaches can succeed in achieving tangible results only if citizens trust in the system's ability to securely manage their data. Strong political will and leadership, foreign assistance matched with local incentives, and a supportive institutional environment are needed.

Figure 2: Data Silos and Impact of Interoperability Layer



Source: Authors.

In recent years, the focus of ICT projects in health systems has been on data extraction, monitoring, and evaluation, and not on improvements in the operational side of social health protection implementation. However, social security organizations (such as social health insurance funds) and health service providers (e.g., hospitals) need to take a harmonized approach to identifying their patients to avoid the use of redundant or incorrect data in strategic planning.

These organizations must also move away from crudely aggregated health data to personalized records. Such a move could mean knowing with greater certainty whether one person has visited a clinic 10 times or 10 people have visited once. A standardized ICT and personal identification system can solve many of these problems and this level of detail will be required when moving toward UHC.

Social security organizations (such as social health insurance funds) and health service providers (e.g., hospitals) need to take a harmonized approach to identifying their patients to avoid the use of redundant or incorrect data in strategic planning.

A number of developing countries in Asia, including Indonesia, Lao PDR, the Philippines, and Viet Nam, have introduced social health insurance schemes and are now grappling with highly fragmented ICT applications among health care service providers (Box 1). Other developing countries that have yet to implement health insurance programs, notably Cambodia, Myanmar, and Nepal, can still learn from other countries' experience and manage the challenges. They would benefit greatly from a simple solution to avoid these issues of cross-platform technological incompatibility.

IMPLEMENTATION OF A UNIQUE HEALTH IDENTITY

The national health ID environment comprises citizens, the government, public–private partnerships, the information data hub, ICT infrastructure, and other stakeholders. Each stakeholder in the network will have its own short-term and long-term objectives in being part of a unified national network.

A national health ID environment will aid in the delivery of government-to-citizen services and will also provide a single window for all services from the government and its health partners. Governments typically focus first on the introduction of technology. But for this stage, and everything else that follows, to succeed, the fundamental challenge is to create an enabling legal environment, and to raise awareness through public education to gain public trust in the privacy and security of the proposed system (Box 2).

PROTECTION OF THE INDIVIDUAL'S RIGHT TO PRIVACY

As personal information databases continue to migrate from paper to electronic records, the protection of individual privacy rights becomes even more important as these databases are increasingly susceptible to hacking and misuse. While public records often comprise generic information such as name, address, and birth date, there are privacy risks associated with this information.

In addition, when a civil registry, public database, or document evolves into an identity system, incorporating intimate personal information—especially personal health data—stringent protections are needed to protect against the potential for abuse.

Citizens are accustomed to completing forms that ask for their personal information, frequently for inclusion in public registers and health information databases. The information is usually obtained for specific purposes, including birth, death, marriage, and divorce records; voter registration; land and motor vehicle transactions; company registration; and share trading. Often, there is no choice but to provide the information, but when citizens feel wary of those in charge of these records, they may give incomplete or inaccurate information.

Box 2: Stages of Unique Identifier Implementation

1. Develop an enabling legal environment for registration and dentification, with a fundamental commitment to data privacy and security
2. Convene stakeholders and create cross-agency support
3. Develop long-term financing and a capacity development plan for ICT investments and training programs
4. Establish an ICT-based, universal civil registration and vital statistics (CRVS) system
5. Introduce the technical components, such as servers, for setting up a civil registry or patient registry, and network infrastructure
6. Build an integrated population identification system
7. Launch a unified data distribution and verification center covering all individuals
8. Align organizations and introduce e-governance processes to ensure efficient and transparent service delivery

Source: Authors.

As a result, citizens must be able to trust the government to keep such personal information confidential. Laws regarding privacy protections should ensure the following:

- only data necessary for a clearly defined purpose are collected;
- individuals retain control over how their personal information is managed and used;
- personal information is disclosed only for the purpose for which it was collected;
- there is transparency in both the implementation and the operation of the registry; and
- personal information is securely handled during storage, transmission, and use.

The protection of individual privacy rights becomes even more important as these databases are increasingly susceptible to hacking and misuse.

10 LESSONS LEARNED

1. Countries need to have the right laws in place
Countries should have a legal and regulatory environment that enables interoperability between civil registration and national identification numbers including citizen ID, health ID, driving license ID, and other government-issued identity numbers.

Exchanges between systems should be facilitated and coordinated by the government to maintain security of information and to provide a central link for social service systems.

2. Social services require beneficiary identification
A truly integrated social services system requires a unique individual identifier, which enables administrative databases of different institutions of the state to communicate and authenticate beneficiaries across and between administrative registries.

3. Birth and death registration is crucial
The registration of births and deaths is an essential administrative and legal function of government and the responsibility must be shared with families. Birth and death registration must be complete, timely, and accurate, so that the identity of the individual is established and managed from cradle to grave.

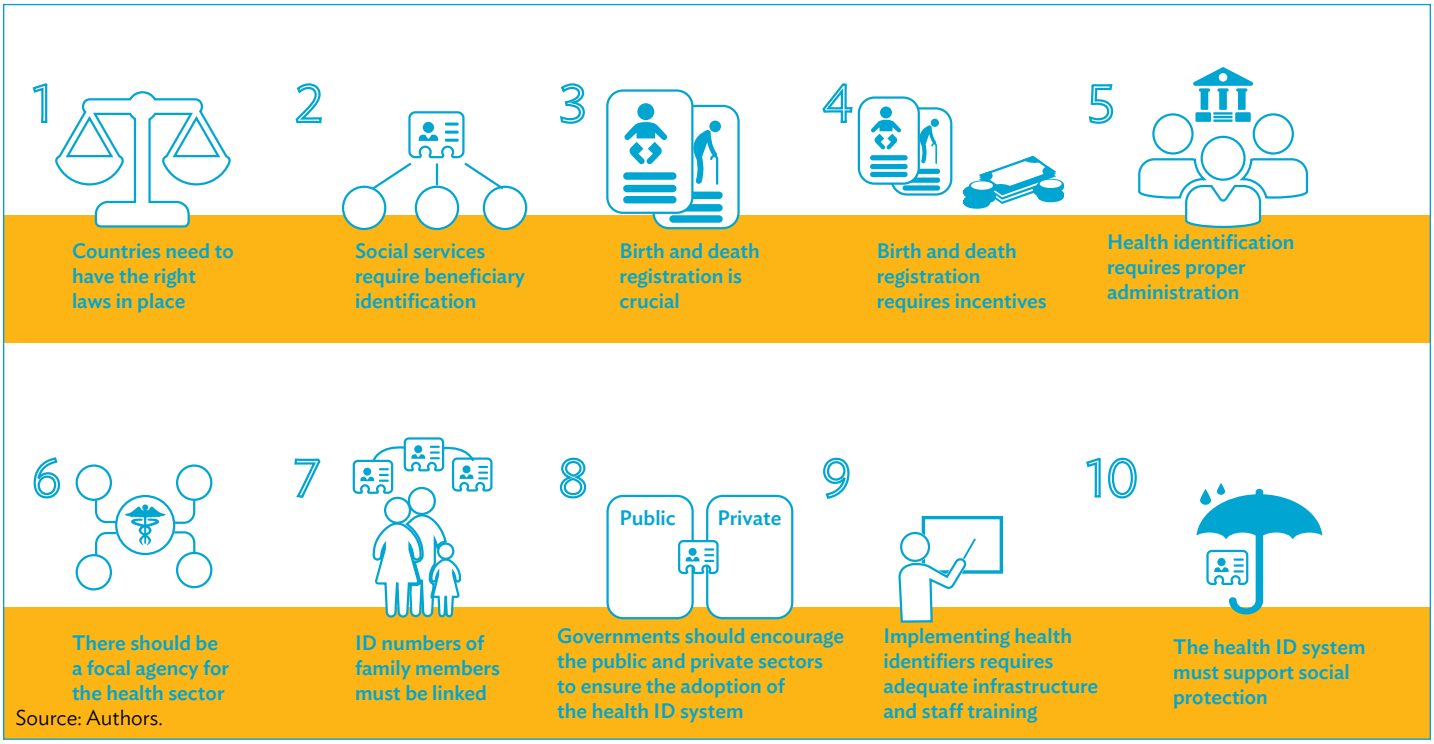
4. Birth and death registration requires incentives
One way to motivate individuals to register births and deaths, and thus raise the capture rate of these events, is to require them to present birth or death certificates when applying for social protection benefits (e.g., health insurance, pension, accident insurance).

5. Health identification requires proper administration
Organizing and administering health identification under a single agency has many advantages in terms of synchronization and harmonization of processes, decision making, and resource management. An organic link between birth and cause of death registrations, vital statistic updates, and creation of a health ID number is therefore necessary. To receive a national health ID, one must have had one's birth registered under the law.

6. There should be a focal agency for the health sector
Governments need a focal agency for the health sector to take responsibility for developing strategic digital health guidelines, including the issuance of health IDs. The mandate for this focal agency should also cover coordination among health care deliverers.

7. ID numbers of family members must be linked
Identity can be authenticated digitally, but there must be legal

Figure 3: 10 Lessons Learned Toward Unique Identifiers



Source: Authors.

guarantees that privacy will be protected. For minors, who cannot legally represent themselves, it is advisable to create algorithms using unique ID numbers that are linked to the parents' IDs. Such a link also helps ensure the accuracy of biometric information on children, which is difficult to collect.Health ID documents should not include information about the bearer's ethnicity, to avoid possible abuse by governments or third parties.

8. Governments should encourage the public and private sectors to ensure the adoption of the health ID system
Countries that hope to make rapid progress in implementing civil registration and health identifier systems should define and offer incentives both to the population and to the public and private sectors to ensure the adoption and recognition of the health ID system.

9. Implementing health identifiers requires adequate infrastructure and staff training
Institutional capacity is needed to roll out the administrative practices for the identification process in an effective and efficient way. There must be an adequate number of staff with the right training and skills, the necessary infrastructure must be made available, and capacity development programs must be sustained.

10. The health ID system must support social protection
A well-functioning health ID system must be capable of supporting the design and implementation of social policy and social protection programs such as health insurance, pension, accident, and unemployment schemes. It must provide authentication services for potential beneficiaries, thus enabling program monitoring and follow-up, as well as evaluation or impact measurement, and avoiding errors of omission or duplication.

POLICY RECOMMENDATIONS

National policies must support the successful implementation of health identifiers to provide an enabling environment within the governance structure:

- relevant policies to validate digital health IDs as legal documents equivalent to paper-based documents for service delivery by authorized providers;
- an Identity Document Act setting national guidelines for the creation and use of a health ID system for residents;
- laws ensuring that the health ID has recognized legal status as the national ID card, and allowing the entry into the national population register of demographic and biometric data used to personalize the card;
- recognition that while population and health system client or patient registries can serve each other's data generation and health care delivery needs (via shared personal records), a clear distinction must be maintained between them, not least to address privacy concerns related to health information;
- updated regulations requiring both government and private sector service providers to recognize the health ID as a valid customer identification document;
- defined national data and metadata standards including the data and metadata format of residents' demographic and biometric data fields to be stored in the centralized national health ID database;
- a national policy on the adoption of open standards to promote interoperability, including standards for biometric data such as fingerprint images, fingerprint minutiae, and iris images, as well as standard specifications for biometric devices, and approved vendors;
- a Personal Data Protection Act to regulate the use of personal data and databases containing personal information by public authorities and private entities;
- an independent data protection inspection department outside the government but reporting directly to the Prime Minister's office, to ensure and enforce compliance with the requirements of the act; and
- logging of third-party requests for private data, with the logs made available online as requested, via the citizen access portal.

Box 3: Contribution of Development Partners

At the planning stage, development partners can assist countries in developing their own agenda in a more strategic way by encouraging the formation of a steering group to bring together the entities responsible for providing identity services, with ministries and agencies representing the potential users.

In addition, partners can help secure independent technical support, and they can work toward developing technical standards that facilitate cross-platform functionality and competitive open procurement for hardware and software to avoid dependence on proprietary systems and vendor lock-in. ADB is working with the Asia eHealth Information Network, the Korea International Cooperation Agency, UNICEF, the World Bank, and the World Health Organization to support the identity management efforts of developing member states.

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CONCLUSION

As countries aspire for universal health coverage, the role of unique identifiers cannot be ignored. The implementation of a unique ID system requires cross-sectoral coordination, ICT investments, and long-term capacity development. When weighing the costs, it is important to remember that the benefits of unique identifiers go way beyond the health sector and contribute to the implementation of ID management systems, which are needed to improve government services and tax collection.

Several development partners can support governments through this process. Technical agencies such as UNICEF and WHO can provide guidance on policy and standards; peer networks like the Asia eHealth Information Network can support capacity development and sharing of country experience; and development banks such as ADB and the World Bank can structure grant and loan projects to make them supportive of unique ID systems. This support can come even through projects and programs outside the health sector, such as in public sector management, financial inclusion, or social protection, underlining the cross-sectoral benefits of ensuring that every citizen is counted for life.

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ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to the majority of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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