Creating a common language for universal health coverage

> ## "Without a data dictionary, confusion and misinterpretations are common."
>
> Alvin B. Marcelo, while he was the Chief InformationTechnology Executive of PhilHealth, the Philippines.

The challenge

Countries around the world are trying to reach universal health coverage. Access to prepaid, risk-pooled national health insurance schemes can protect citizens from the devastating financial consequences of illness. Strategies, policies, and technologies used to support national health insurance schemes are as varied as the countries implementing them.

Across insurance schemes and between healthcare facilities, the lack of a common 'language' complicates the exchange of information about patients, diagnoses, costs, payments, and other data needed to provide quality care and facilitate transactions in the health sector.

In many countries the ability to overcome this challenge is hampered by fragmented and often weak health insurance and hospital information systems. Existing health information system components were designed to solve a specific problem not to communicate with other systems. Pharmacies, private providers, community health centers, hospitals, and insurers often have their own separate codes, protocols, standards, and technologies that present significant barriers to the efficient sharing of data. This leads to operational inefficiencies such as delays in reimbursement, increased transaction costs, inefficient use of resources, and the potential for inequitable treatment and fraud.
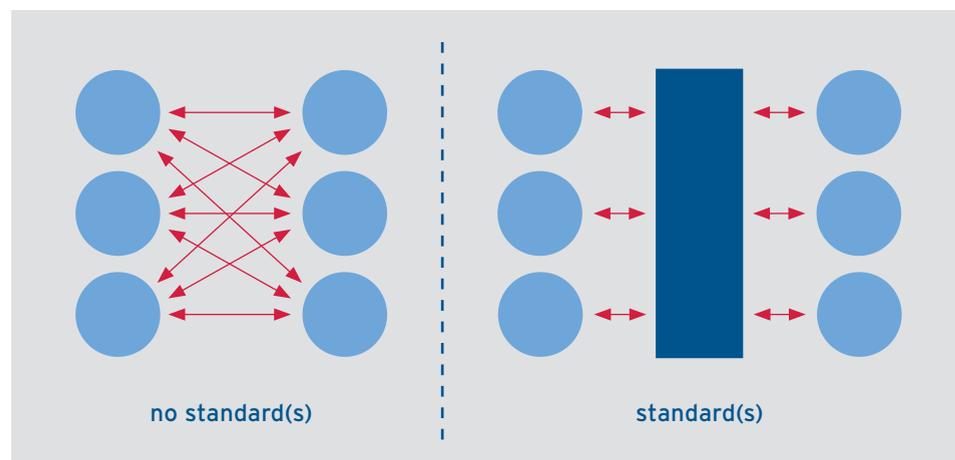
OpenHDD

OpenHDD is a Health Data Dictionary (HDD) designed to help move low and middle-income countries toward universal health coverage. OpenHDD is a low cost solution with a high impact.

Individuals and systems, from the ministries of health to the community health workers, must be able to communicate using the same vocabulary and standards in order to be effective.

OpenHDD is a collaborative, web-based, open-source application aimed at developing and sharing common data definitions and data dictionaries.

It aims to promote interoperability between the various information systems used in health care and healthcare financing. In other words, OpenHDD enables communication among people and information systems, accelerating progress and improving the success of demand-side health financing reforms.

OpenHDD was developed for the Joint Learning Network by PharmAccess Foundation, in partnership with PATH, under a grant from the Rockefeller Foundation. See last page to learn more about these organisations.

no standard(s)   standard(s)

How standards make life easier

Why are information systems important?

A country's ability to care for all of its citizens depends upon its ability to identify those citizens, enroll them, treat them when they are ill, and follow up when needed. In turn, providers need to be paid, governments need to be able to track expenditures, and most importantly, the insurance scheme(s) must remain solvent in order to care for all citizens. These 'actions' all require information and data exchange, whether paper or electronic based, and all are crucial if the goal of universal coverage is to be achieved.

What does openHDD do?

OpenHDD assists in creating a common language. Having a common language simplifies the exchange of information between diverse information systems and enables having consistent data available for analysis and decision making. A health data dictionary provides a foundation that helps enable operational efficiencies such as faster reimbursement, decreased transaction costs, efficient use of resources, better treatment and less fraud. This is the necessary environment to enable and expand health coverage; transparency, harmonization, inter-operability, high quality, and high scalability.

OpenHDD allows you to write definitions for data items, and then share this information on the web, or as XML or PDF files. The simple example below demonstrates why data definitions are important, and how openHDD can help.

"PhilHealth's adoption of openHDD is an international partnership embraced at the highest level of the PhilHealth Corporation."

Alvin B. Marcelo, while he was the Chief Information Technology Executive of PhilHealth, the Philippines.

Around the world, dates are written in different formats, often represented as dd-mm-yyyy, mm-dd-yyyy, or yyyy-mm-dd. You can imagine what problems these variations cause if exchanged between systems or organizations with different customs. Does '01/11/2013' mean the first of November, or January 11th?

OpenHDD allows you to define how dates are to be exchanged in your context.

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Definitions for some terms can have an immediate financial impact. Imagine the administrative efficiencies realized when payers and providers use exactly the same definition for 'bed days', or 'length of stay'. Far fewer claims would have to be rejected if there was an agreement upfront on what these items mean, and how to calculate them. Fewer rejections translate into fewer resubmissions and less administrative hassle, leading to faster reimbursement.
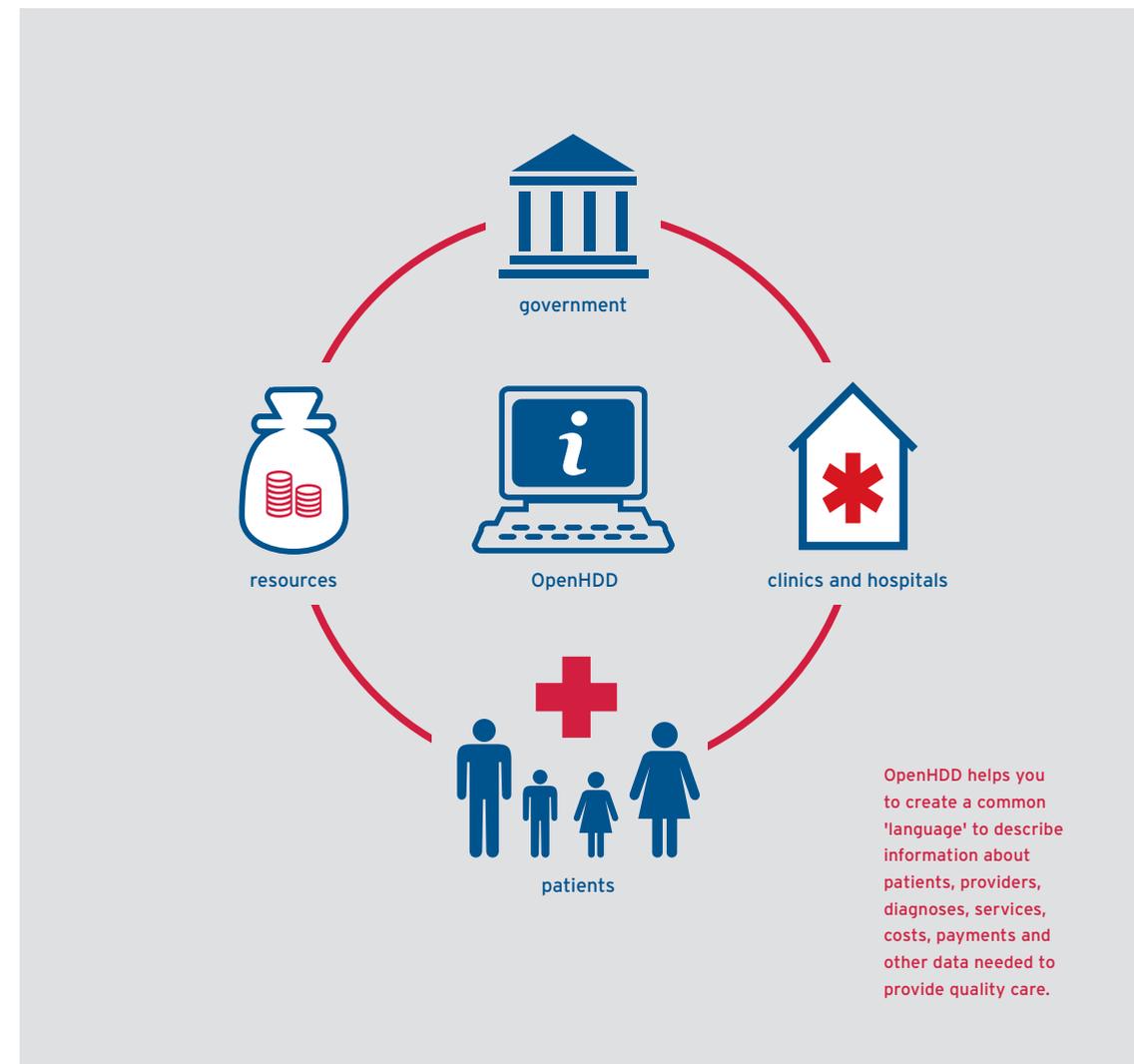
Who is using openHDD?

OpenHDD allows you to view dictionaries created by others and come up with ideas of your own. Standards are held, organized, and disseminated, and available to everyone developing and using (e-health) applications. So instead of starting from scratch, you can view or copy another country's dictionary and then make modifications to create your own.

A number of member countries of the Joint Learning Network for Universal Health Coverage (JLN) use openHDD. The JLN is a unique practitioner-to-practitioner learning network that is

government

resources   OpenHDD   clinics and hospitals

patients

OpenHDD helps you to create a common 'language' to describe information about patients, providers, diagnoses, services, costs, payments and other data needed to provide quality care.

Data Element - Public	
Section	D: Patient Data
Reference ID	JLN/000003
Name	DateOfBirth
Date Created	27-02-2013
Date Updated	16-03-2013
Description	Date of birth of the patient. The difference in years between AdmissionDate and DateOfBirth must be in the range 0-120
Domain	Date
XML Segment	/Batch/Patients/PatientData
Required	Mandatory
Mind Map	PatientData

example of the definition of Date Of Birth in OpenHDD

connecting low- and middle-income countries with one another so that they can learn from each other's successes and challenges with implementing universal health coverage, jointly solve problems, and collectively produce and use new knowledge, tools such as openHDD, and innovative approaches to accelerate country progress and avoid 'reinventing the wheel'.

The Philippines and Malaysia are using openHDD to store and manage their HDDs. Indonesia is now considering adopting openHDD for their upcoming national HDD effort, and so is India's RSBY program. Ghana and Kenya use openHDD to document their joint e-Claims standard.
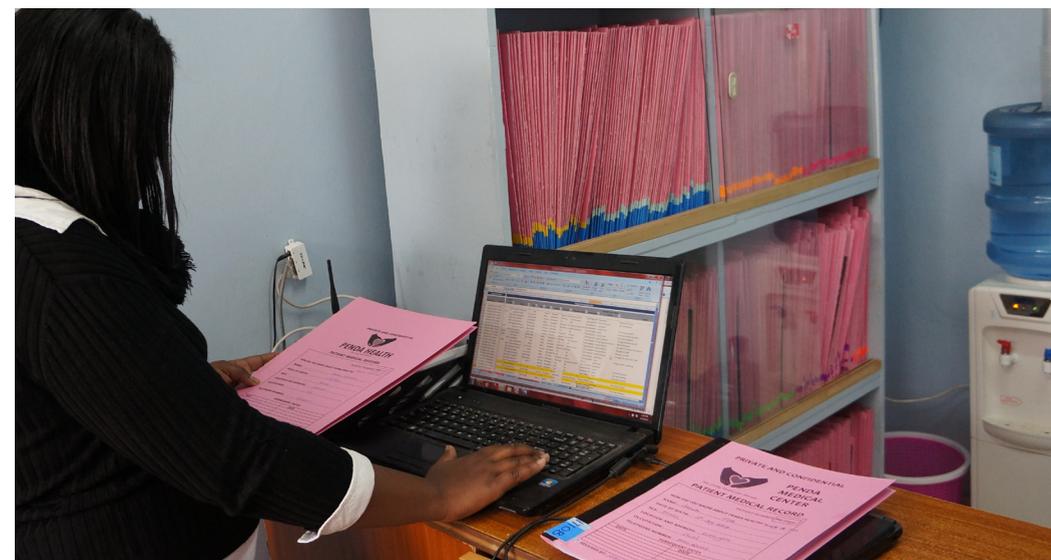
How it works

To work with openHDD visit www.openhdd.org. OpenHDD is accessible through any web browser. When you've reached openHDD take some time to browse through the various menu items. For example on the homepage you'll find a glossary and links to various country websites with examples of Health Data Dictionaries. You can also take a guided tour that shows you some examples of data dictionaries that are already loaded in the tool. All this will help you to get an idea of what data elements and definitions would be relevant for you to work on.

Once the data elements and their properties are more or less clear, start working on some real definitions. This is when you expand the subdatasheets and enter details. It is considered best practice for each data element definition to consist of some formal properties (e.g. Data Type, Format, Length, Definition) and some informational ones (e.g. Guidelines and Comments). The formal propertie mostly address computer system requirements, and the informational properties aim to let computer users know what to do with these definitions.

Properties									Data Element ∨
Type	#	Attribute	Display	Length	Unique	Required	Public	AutoFill	
Data Element	1	Section	Select	1	N	Y	Y	N	Edit | Delete
Data Element	2	Reference ID	Text	15	Y	Y	Y	Y	Edit | Delete
Data Element	3	Name	Text	50	Y	Y	Y	N	Edit | Delete
Data Element	4	Date Created	Date	10	N	Y	Y	Y	Edit | Delete
Data Element	5	Date Updated	Date	10	N	Y	Y	Y	Edit | Delete
Data Element	6	Description	Text	1000	N	N	Y	N	Edit | Delete
Data Element	7	Domain	Select	1	N	Y	Y	N	Edit | Delete
Data Element	8	XML Segment	Select	1	N	Y	Y	N	Edit | Delete
Data Element	9	Required	Select	1	N	Y	Y	N	Edit | Delete
Data Element	10	Mind Map	Select	1	N	N	Y	N	Edit | Delete
...select... ∨		...select... ∨	Decimal ∨		No ∨	No ∨	Yes ∨	Yes ∨	Add | Restore

OpenHDD properties screen

Dictionary items are described in terms of their attributes. For each type of item that you want to distinguish, attributes can be configured as needed using the 'Properties' screen. You can indicate which attributes you want to use, in which order to display them, what type and length of input to accept (e.g. dates or numbers only, 1 or 1000 characters of text), if input is required (i.e. mandatory), if inputted values must be unique, and if attributes are 'public' or 'private'. Only public attributes are visible to the outside world. Items (as a whole) can be made private as well.

OpenHDD can be configured to follow the ISO standards with regard to meta-data repositories (ISO/IEC 11179 Information Technology – Metadata Registries). However, it does not require you to use that rigor. You are advised to start small (and manageable), concentrating on immediate needs first. A tried-and-tested approach is to start with whatever

"OpenHDD makes relevant data available for clinical decision-making, research, public health and quality reporting. More importantly, the standardized data is reliable—understood by the IT systems that exchange it and trusted by users who need it."

Dr. Arturo Alcantara, Chief,
Task Force Informatics PhilHealth, the Philippines.

paper forms are currently being exchanged between parties. Then try and see what data model you would come up with if all that data was stored in a single database. Are there any redundancies? Has the data been normalized? Are codes being used instead of free text?

For more information about openHDD visit www.openhdd.org

PharmAccess Group

PharmAccess Group aims to make affordable and high-quality healthcare accessible to low income people. The group strengthens the existing healthcare system using an integrated approach, in which each of its organisations make a significant contribution. The groups' innovative programs give impetus to the demand for healthcare services (through subsidized health insurance) as well as the provision of healthcare services (through affordable credits, investments and quality standards). The impact of the programs is constantly measured. For more information, please visit **www.pharmaccess.org**.

PATH

PATH is an international non-profit organization that transforms global health through innovation. PATH takes an entrepreneurial approach to developing and delivering high-impact, low-cost solutions, from lifesaving vaccines, drugs, diagnostics, and devices to collaborative programs with communities. Through work in more than 70 countries, PATH and partners empower people to achieve their full potential. For more information, please visit **www.path.org**.

The Joint Learning Network

The Joint Learning Network for Universal Health Coverage (JLN) is a unique practitioner-to-practitioner learning network that is connecting low- and middle-income countries with one another so that they can learn from one another's successes and challenges with implementing UHC, jointly solve problems, and collectively produce and use new knowledge, tools, and innovative approaches to accelerate country progress and avoid 'reinventing the wheel'. For more information, please visit **www.jointlearningnetwork.org**.

Rockefeller Foundation

The Rockefeller Foundation supports work that expands opportunity and strengthens resilience to social, economic, health and environmental challenges—affirming its pioneering philanthropic mission since 1913 to promote the well-being of humanity. For more information, please visit www.**rockefellerfoundation.org**.

For more information

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PharmAccess
FOUNDATION