

## 病院へのシステムの導入状況 (1/2)






HIS：病院の一般管理システム。**公立病院へのHIS導入率は100%。**なお、**健康診断モジュールはHISに含まれている。**

EMR：紙媒体に代替する電子医療記録システム。導入は8か所の公立病院のみと限定的。

RIS / PACS：放射線科情報システムおよび画像保存通信システム。画像データはDICOM規格に対応。2015年から保健省主導で試験運用が進められており、23か所の公立病院で導入済み。

LIS：検査室の遠隔管理機能を備えた臨床検査情報システム。36か所の公立病院で導入済み。

図表1 基幹システム及び部門システムの導入状況

	Description	Application in public hospitals	Providers
<b>General &amp; Administrative</b>			
① Hospital Information system (HIS)	<ul style="list-style-type: none"> <li>Supporting the <b>management and administration</b> of the hospital</li> <li>Main functions: <i>patient information management, EMR, inpatient - outpatient treatment management, pharmacy, finance, payment, medical supplies, human resources...</i></li> </ul>	<ul style="list-style-type: none"> <li><b>100% of hospitals under MOH have deployed HIS software</b></li> <li>Some hospitals developed HIS software by themselves, the rest use HIS software of IT providers</li> </ul>	
② Electronic Medical Records (EMR)	<ul style="list-style-type: none"> <li>An <b>alternative software for paper medical</b>, storing diagnosis results, tests, treatment procedures, etc.</li> </ul>	<ul style="list-style-type: none"> <li>8 hospitals announced complete replacement of paper medical records by electronic medical records (<i>Hai Phong Internation Gen. Hospital, An Giang Gen. Hospital, Phu Tho General Hospital, ...</i>)</li> </ul>	
<b>Specialized function</b>			
③ Radiology Information System (RIS)	<ul style="list-style-type: none"> <li>Similar to HIS but smaller in scale, applied to the <b>management of Diagnostic Imaging Department</b></li> <li>Typical functions: <i>managing patient information, patient wait list, imaging data, and diagnose results ...</i></li> <li>Data processed by RIS includes <b>text and image</b> in DICOM standard ((Digital Imaging and Communications in Medicine), received from imaging devices</li> </ul>	<ul style="list-style-type: none"> <li><b>MOH has implemented PACS/RIS pilot projects in some hospitals since 2015</b>, on which basis the Ministry of Health evaluates the cost effectiveness so that it can be applied nationwide</li> </ul>	
④ Picture Archiving and Communication System (PACS)	<ul style="list-style-type: none"> <li>A management system for <b>storing, transmitting and receiving images</b> on the Diagnostic Imaging Department / hospital's computer network</li> <li>PACS uses standard format DICOM, it <b>does not accept text data</b> like PACS</li> </ul>	<ul style="list-style-type: none"> <li><b>Currently there are 23 hospitals have installed PACS/RIS in their system</b></li> </ul>	
⑤ Laboratory Information system (LIS)	<ul style="list-style-type: none"> <li>Overlooking <b>laboratory's operating information</b>, can provide additional function such as: <i>remote monitoring of the laboratory, returning test results via LAN, Internet, Web, SMS, Email, App ...</i></li> </ul>	<ul style="list-style-type: none"> <li>36 hospitals under the Ministry of Health are equipped with LIS software</li> </ul>	

出所：図表1 PwC調査最終報告書P.29

Note: HISは病院情報管理システム、EMRは電子医療記録、RISは放射線科情報システム、PACSは画像保存通信システム、DICOMは医用画像の画像規格及び通信プロトコルを決める全世界共通仕様、LISは臨床検査情報システムを指す。

## 病院へのシステムの導入状況 (2/2)

全ての公立病院でHISが導入済みとなっている。全ての中央レベルの病院と省・郡レベルの病院で、LAN・WANのインターネット通信環境が完備されている。中央レベルの病院は5人以上のIT専門部署を、省・郡レベルの病院は3人以上のIT専門チームを備えている。インフラ面で、**健康診断モジュールの導入提案やクラウドの利用が受け入れられやすい**素地は整っている。

図表 1 医療機関(地域・管轄分類)のシステム導入状況

Note: Statistics of 54/63 provinces		IT maturity	IT system synchronised/ connection
Hospital	Central	<ul style="list-style-type: none"> <li>100% have basic HIS system</li> <li>47.6% have LIS system</li> <li>9.5% have PACS system</li> <li>Computer/Staff ratio = 1</li> <li>100% have LAN, WAN, internet connection</li> <li>IT department consists of at least 5 staff/hospital</li> </ul>	<ul style="list-style-type: none"> <li>100% of hospitals and medical centres at all levels have connected to Vietnam Social Security System</li> <li>Shared platforms of public healthcare system:               <ul style="list-style-type: none"> <li>Local government Service Platform (LGSP) - ministerial &amp; provincial data sharing platform: Electronic catalogues; Legal normative documents; Online public service payments;...</li> <li>Databases where health units can upload statistical data – currently applied in 27 provinces: health statistics, healthcare human resources, pharmacy, population planning, HIV / AIDS deaths,...</li> <li>Ministerial – provincial – local ( health stations level 4, 5) data linkage using the V20 platform</li> </ul> </li> <li>Application of national and international standards in IT:               <ul style="list-style-type: none"> <li>HL7 standards: HL7 V2.2 message, HL7 V3 message, CDA clinical document architecture</li> <li>Digital image standards: DICOM</li> <li>Connection, interoperability and data exchange standards between medical applications and devices: ISO / IEEE 11073</li> <li>Exchanging and sharing statistical indicators and metadata standard: SDMX-HD</li> </ul> </li> </ul>
	Local	<ul style="list-style-type: none"> <li>100% have basic HIS system</li> <li>20% have LIS system</li> <li>4.5% have PACS system</li> <li>Computer/Staff ratio = 1</li> <li>100% have LAN, WAN, internet connection</li> <li>IT team consists of at least 3 staff/hospital</li> </ul>	
	Other ministries	<ul style="list-style-type: none"> <li>100% have basic HIS system (general level)</li> <li>21.4% have LIS system (general level)</li> <li>4.8% have PACS system (general level)</li> <li>Computer/Staff ratio = 1</li> </ul>	
Others	Health stations	<ul style="list-style-type: none"> <li>Computer/Staff ratio = 1</li> <li>100% have LAN, WAN, internet connection</li> </ul>	
	Others	<ul style="list-style-type: none"> <li>Computer/Staff ratio = 1</li> <li>100% have LAN, WAN, internet connection</li> </ul>	

出所：図表 1 PwC調査最終報告書P.28

Note: HISは病院情報管理システムを指す。