

# Regional Health Information Systems Strategic Plan 2012-2017

*Pacific Health Information Network*



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## ACKNOWLEDGEMENTS

Ni Sa Bula vinaka, Malo e lelei, Talofa lava, Kia Orana, Taloha Ni, Fakalofa lahi atu, Aloha, Namaste, Ulufale mai, lakwe, Alii, Ko na mauri, Kia ora.

Welcome to the Regional Health Information Systems Strategic Plan 2012 – 2017. The development of this Plan is the culmination of over two years worth of work, including a number of consultative stakeholder meetings, and reflects key issues discussed at the Pacific Health Ministers' meeting in Honiara in 2011. The Pacific Health Information Network (PHIN) would like to express its sincere thanks to its members and their representative countries for their expert contributions. PHIN especially acknowledges the eight Planning Group members for their time and dedication committed at the numerous teleconferences and meetings held over the past 12 months. PHIN would also like to thank participants at the Pacific Health Information Systems Development Forum held in 2009. Central to this Forum were discussions on the issues and challenges for health information systems in the Pacific. These discussions have been central to the development of the strategic action points for this Plan and PHIN acknowledges the contributions from the 15 Pacific Island Countries and Territories represented at this meeting.

Finally, on behalf of the President and Vice-President of PHIN, we would like to acknowledge the technical support and guidance provided by the Health Information Systems Knowledge Hub; World Health Organisation Western Pacific Regional Office; School of Population Health, University of Queensland; College of Medicine, Nursing and Health Sciences, Fiji National University; Health Information Management Association of Australia; and Queensland University of Technology. The invaluable efforts from individuals within these organisations have been instrumental in the development of this Plan and PHIN has welcomed their support.

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## ABBREVIATIONS

PHIN	Pacific Health Information Network
HIS Hub	Health Information Systems Knowledge Hub
HIS	Health Information System(s)
PICTs	Pacific Island Countries and Territories
WHO	World Health Organization
WPRO	WHO Western Pacific Regional Office
ICT	Information and Communication Technology
PAS	Patient Administration System
HRMIS	Human Resource Management Information System

## 1. SUMMARY

A well-functioning Health Information System (HIS) is an integrated effort to collect, process, report and use health information and knowledge to influence policy and decision-making, programme action, individual and public health outcomes, and research. It has been agreed there is potential for regional solutions to progress HIS issues in Pacific Island Countries and Territories (PICTs) and that the way forward to address HIS issues for the region is to work as a collective group, the Pacific Health Information Network (PHIN) ([www.phinnetwork.org](http://www.phinnetwork.org)), to help each other to strengthen what is such an integral part of a health system. The purpose of this document is to briefly outline the need for HIS in the Pacific, and develop a PHIN strategic plan (version 1.0) for HIS professionals and development partners working in PICTs. The proposed plan has six main strategic areas for action, including:

1. Advocate for the recognition of and improvement to HIS within PICTs
2. Enhance institutional capacity and opportunities for workforce development and training
3. Strengthen the application of information and communication technologies (ICT)
4. Improve data integration, quality and sharing
5. Develop policies, regulations and legislation on HIS-related issues
6. Enhance HIS leadership and sustainable governance.

Through consultation with PHIN members and development partners, this plan will be prioritised and enhanced with costing, timelines, identification of roles and responsibilities of key partners, include a monitoring and evaluation framework, and specify more detailed next steps and interventions to derive version 2.0 of this plan and serve as the PHIN implementation plan for 2012-2017. This document can be used to influence PICT HIS policies, strategies, and plans through alignment with the regional PHIN strategy and plan of action and benefits through peer-to-peer learning and sharing.

## 2. PACIFIC HEALTH INFORMATION NETWORK

### 2.1 Aim

PHIN aims to support health outcomes and systems through the strengthening of quality and use of health information. To achieve this PHIN has a number of specific target outcomes across the region including:

- To support the integration of health information systems (HIS), and to ensure that cost-effective, timely, reliable and relevant information is available, and used, to better inform health development policies
- To provide a capacity building mechanism for networking, support, information sharing and training for people working as health information professionals
- To promote health information systems in the broader health system strengthening agenda.

#### 2.1.1 PHIN Vision

Health in Pacific Island Countries and Territories is enhanced through better use of quality and timely information.

#### 2.1.2 PHIN Mission

Professionals working in health information systems in Pacific Island Countries and Territories shall promote and use reliable, complete and timely information for decision-making and for achieving greater health outcomes.

### 2.2 Background

PHIN was established at a Health Metrics Network (HMN) meeting in Noumea in 2006, and since this time various workshops and meetings have been held across the Pacific region.

### 2.3 Governance and communications

PHIN is a non-government, not for profit organisation. In terms of structure, a President and Vice President are nominated from existing members through an biennial process, via an email ballot. The President represents the Network at all relevant events and functions, as funds allow, and is the key contact for PHIN during their time in office.

The website for PHIN, [www.phinnetwork.org](http://www.phinnetwork.org), will be used as a portal for PHIN members to apply for membership, access PHIN documents and links to online resources, post individual member profiles, utilise discussion groups for inquiries and peer-assistance, and learn about upcoming events and opportunities.

## 2.4 Membership

Membership is currently free for individual and institutions, and members must complete an application form to be officially registered with the Network. PHIN members are encouraged to recommend other colleagues in the region to join the Network to broaden and strengthen its effectiveness. As of July 2011, there are currently 33 PHIN members from 15 different PICTs, including:

1. Australia
2. The Cook Islands
3. Federated States of Micronesia
4. Republic of Fiji
5. Hawaii
6. Republic of Kiribati
7. Republic of the Marshall Islands
8. Republic of Nauru
9. Republic of Palau
10. New Zealand
11. Independent State of Samoa
12. Tuvalu
13. Solomon Islands
14. Kingdom of Tonga
15. Republic of Vanuatu.

Members represent a range of professional organisations and roles, including health planning and information managers, medical records officers, medical statisticians, health information officers, quality assurance officers and IT directors.

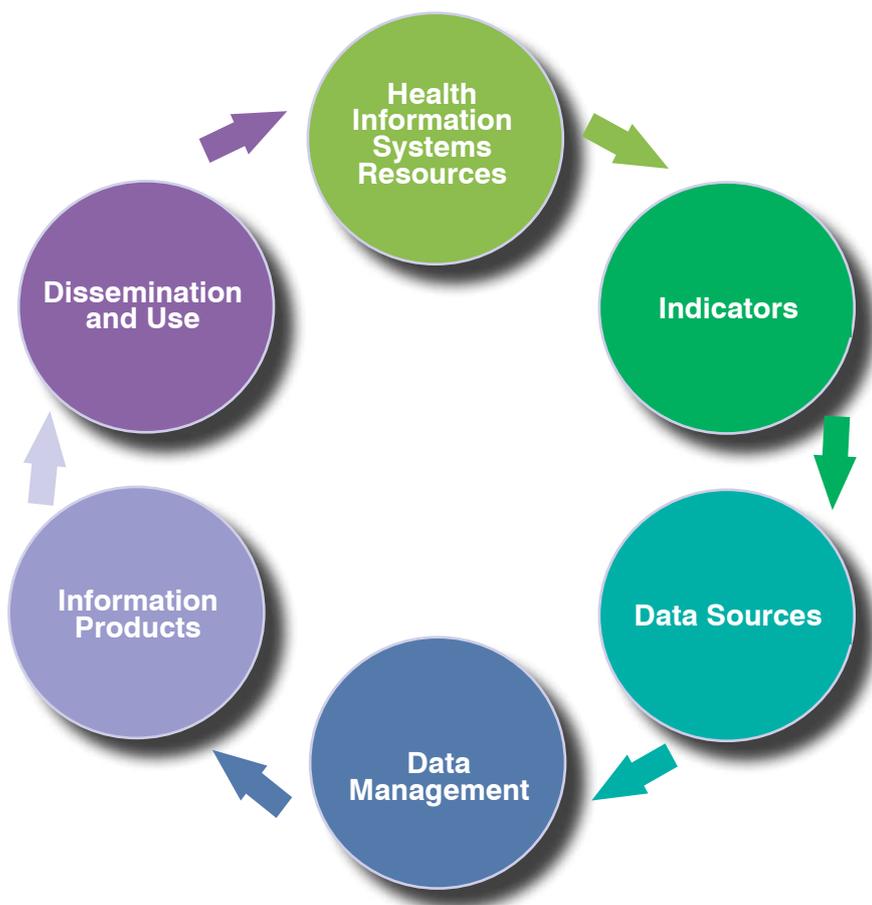
## 3. HEALTH INFORMATION SYSTEMS

Health information systems refer to any system that captures, stores, manages or transmits information related to the health of individuals or the activities of organisations that work within the health sector. This definition incorporates things such as district level routine information systems, disease surveillance systems, and also includes laboratory information systems, hospital patient administration systems (PAS) and human resource management information systems (HRMIS). Overall, a well-functioning HIS is an integrated effort to collect, process, report and use health information and knowledge to influence policy and decision-making, programme action, individual and public health outcomes, and research. Sound decision-making at all levels of a health system requires reliable health statistics that are disaggregated by sex, age and socioeconomic characteristics. At a policy level, decisions informed by evidence contribute to more efficient resource allocation and, at the delivery level, information about the quality and effectiveness of services can contribute to better outcomes.

Information systems, particularly at lower levels of the health system (closer to the collection source),

need to be simple and sustainable and not overburden health delivery staff or be too costly to run. Staff need feedback on how the routine data they collect can be used and also need to understand the importance of good quality data for improving health. Capacity building is required to ensure policymakers at all levels have the ability to use and interpret health data, whether it originates from routine systems, health surveys or special operational research. It is also important that health system staff understand the significance of local data for local program management, and that their needs for strengthened capacity for critical health statistical analysis are met. Local use of data collected at lower levels of the health system is a key step for improving overall data quality. Furthermore, aggregate patient information collected at various points of service delivery and made interoperable with routine HIS improves the quality and use of health information.

The Health Metrics Network (HMN), in their Framework and Standards for Country Health Information Systems <sup>1</sup>, has defined a Health Information System as consisting of six components:



**Figure 1: The six components of a Health Information System**

#### 1. Health Information System Resources

These include the legislative, regulatory and planning frameworks required for a fully functioning health information system, and the resources that are required for such a system to be functional. Such resources involve personnel, financing, logistics support, information and communications technology (ICT), and coordinating mechanisms within and between the six components

<sup>1</sup> World Health Organization (2008), Framework and Standards for Country Health Information Systems, Health Metrics Network, Second Edition. Geneva

## 2. *Indicators*

A core set of indicators and related targets is the basis for a health information system plan and strategy. Indicators need to encompass determinants of health; health system inputs, outputs and outcomes; and health status

## 3. *Data Sources*

These can be divided into two main categories; (1) population-based approaches (censuses, civil registration and population surveys) and (2) institution-based data (individual records, service records and resource records). A number of data-collection approaches and sources do not fit into either of the above main categories but can provide important information that may not be available elsewhere. These include occasional health surveys, research, and information produced by community based organisations

## 4. *Data Management*

This covers all aspects of data handling from collection, storage, quality-assurance and flow, to processing, compilation and analysis

## 5. *Information Products*

Data must be transformed into information that will become the basis for evidence and knowledge to shape health action

## 6. *Dissemination and Use*

The value of health information is enhanced by making it readily accessible to decision-makers and by providing incentives for, or otherwise facilitating, information use.

# 4. CONSULTATIVE MEETINGS

The most recent PHIN Meeting was held in September 2009 in Nadi, Fiji. Target participants for the meeting were operational health information staff in public service roles in their respective countries. The goal of the meeting was to provide an opportunity for networking and knowledge sharing on individual country HIS activities, in the areas of HIS policy, mortality and morbidity coding, and the use of IT in health. A Pacific Health Information System Development Forum was also held in November 2009 in Brisbane. Target participants for the forum were senior-level leaders and policymakers who have a critical role to lead, coordinate, and promote capacity building, and contribute to the improvement of HIS in their retrospective countries. The goal of the Forum was to identify and understand the current practice and challenges within HIS in the Pacific region, to enable partner countries to actively contribute to, and build a common vision and action plan of how best to build capacity for HIS in the Pacific.

PICTs represented at the PHIN meeting and Forum included: American Samoa, Cook Islands, Fiji Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. The consultative meetings identified six common issues and challenges for HIS in the Pacific:

1. Improving data integration and sharing
2. Increasing data analytical skills among data producers
3. The potential for regional approaches to HIS
4. Strategies for advocacy approaches to HIS
5. The role of health surveys
6. The use of institution-based data<sup>2</sup>

A workshop co-organised by PHIN, the Health Information Systems (HIS) Knowledge Hub at the University of Queensland, and the WHO Western Pacific Regional Office (WPRO) will be held 16-17 August 2011 with current and prospective PHIN members to review the strategic plan and inform next steps towards implementation of the plan.

## 5. REGIONAL HIS STRATEGIC PLAN

The HIS Knowledge Hub at the University of Queensland hosted two key events on HIS in the Pacific region in 2009: a meeting of the PHIN and a Pacific HIS Development Forum. Both events were designed to synthesise greater knowledge about HIS within the region, and provide an opportunity to discuss common issues and challenges and learn from relevant local advances. The global agenda and drivers of HIS were discussed at both meetings to provide a clearer understanding of how Pacific Island Countries and Territories (PICTs) are positioned within the larger international agenda.

The two meetings also provided the opportunity for participants to put forward suggestions for future action. Many of the solutions proposed highlighted the potential for regional solutions to progress the issue, and as such, it was strongly felt that the way forward to address HIS issues for the region is to work as a collective group, helping each other to strengthen what is such an integral part of a health system. In light of the findings from these two meetings, and in line with the Informal Consultation on Health Information Systems Strategic Plan for the Western Pacific Region (WPRO 2005), PHIN developed a six-year Regional Health Information Systems Strategic Plan, which focuses on the following six main strategic areas for action:

1. Advocate for the recognition of and improvement to HIS with PICTs
2. Enhance institutional capacity and opportunities for workforce development and training
3. Strengthen the application of information and communication technologies (ICT)
4. Improve data integration, quality and sharing
5. Develop policies, regulations and legislation on HIS-related issues
6. Enhance HIS leadership and sustainable governance.

<sup>2</sup> LumOn M, V Bennett and M Whittaker. 2010. Issues and Challenges for Health Information Systems in the Pacific: Findings from the Pacific Health Information Network meeting 29 September – 2 October 2009 and the Pacific Health Information Systems development forum 2 – 3 November 2009. Health Information Systems Knowledge Hub, available at [www.uq.edu.au/hishub](http://www.uq.edu.au/hishub)

## 6. IMPLEMENTATION

While this PHIN Strategic Plan is an important step forward, continued work is required to prioritise strategies, develop implementation plans and identify forms and sources of support needed by member countries in order to scale up activities for overall implementation. Participants at the 2011 HIS workshop will inform next steps and the development of version 2.0 of the plan, or a more detailed PHIN implementation plan, applying the prioritisation, ideas, and recommendations expressed by in-country PHIN members plus discussions with donors and technical partners to identify how and where they can contribute. The PHIN implementation plan will also identify resource requirements, timelines, and actions to be taken by PHIN members and development partners to add clarity and specification of interventions over the 2012-2017 period.

The roles, responsibilities, and contributions of PHIN members and supporting donors, development partners, and technical agencies need to be further clarified in support of the plan. PHIN members will contribute to implementing the plan and can advocate HIS improvements by using the PHIN strategy as a policy tool, seek opportunities for priority setting of HIS strengthening in health sector development plans, improving the culture of high quality and use of health information for decision-making, and taking opportunities to communicate the importance of health information and brief policy officers and decision-makers often. Donors, development partners, and technical agencies can contribute by aligning future investments in HIS strengthening with the PHIN strategic plan that reflects and is guided by PICTs declared priorities and interests and synchronise existing and future PICTs health sector support activities with this plan. Health sector decision makers at all levels, from clinicians at the point of care up to the Ministers of Health and executive levels of government, can use the PHIN plan to demand and expect more and reliable information and evidence to improve health care, mobilise resources, and make more efficient and cost-effective decisions.

Furthermore, strategies for the integration of inputs and enhancement of capacity for knowledge management and use of health information in member countries also need to be developed. The PHIN Implementation Plan (version 2.0) and a monitoring and evaluation framework are the next two documents of critical importance for the continued development and ongoing support of this Regional HIS Strategic Plan.

## HIS REGIONAL STRATEGIC PLAN

Strategy	Action(s)
<b>1. Advocate for the recognition of and improvement to HIS within PICTs</b>	<b>1.1</b> Conduct advocacy activities to create awareness, discuss issues and elicit action for the following HIS-related areas: <ul style="list-style-type: none"> <li><b>a.</b> Systematic development and strengthening of the HIS of member countries (e.g. development of HIS master plans, strategic framework, strategic plans, policies)</li> <li><b>b.</b> Resources sharing for HIS development and maintenance among different programs within the Ministry of Health and donor agencies</li> <li><b>c.</b> Development of mechanisms for effective and efficient knowledge management</li> <li><b>d.</b> Integration of information systems of different vertical programs within the Ministry of Health</li> <li><b>e.</b> More rigid implementation of existing HIS-related laws and regulations</li> <li><b>f.</b> Strengthening of the curriculum of medical and nursing schools in relation to the generation and use of health information (including the use of ICD-10)</li> <li><b>g.</b> Alignment of emerging HIS needs and activities with current management priorities (i.e. National Health Plans, Country Annual Plans)</li> </ul>
	<b>1.2</b> Increase regional dialogue on the incentives for data collection at the health system level
	<b>1.3</b> Promote HIS among key non-health stakeholders (e.g. the Bureau of Statistics, Ministry of Justice or Civil Registry, Ministries of Finance, Planning, and Information Technology, and private health providers)
	<b>1.4</b> Promote the sharing and application of experiential knowledge related to HIS
	<b>2. Enhance institutional capacity and opportunities for the creation of professional development pathways</b>
<b>2.2</b> Improve existing pre-service and in-service training for HIS personnel <ul style="list-style-type: none"> <li><b>a.</b> Implement and improve recognition and accreditation of training and prior learning</li> </ul>	
<b>2.3</b> Develop regional curriculum for training in HIS, including (but not limited to): management, biostatistics, coding, medical record management, ICT	
<b>2.4</b> Review the roles and functions of a Health Statistics/Information Unit and its place within the Ministry of Health organisational structure, including defining the core challenges for managerial and technical HIS positions (including education levels, remuneration, governance, coordination, supervisory responsibilities) and duties and responsibilities of a Chief Information Officer and HIS Unit	

<b>3. Strengthen the application of information and communication technology</b>	<b>3.1</b> Strengthen the capacity of information systems to transmit, access, and share health information
	<b>3.2</b> Develop policy and implement a maintenance plan for various resources related to HIS including: <ul style="list-style-type: none"> <li><b>a.</b> Physical resources (e.g. record storage facilities)</li> <li><b>b.</b> Replacement and upgrading of equipment, including computer hardware and software</li> <li><b>c.</b> Human resources (e.g. retention of qualified staff)</li> <li><b>d.</b> Data and IT standards and architecture</li> <li><b>e.</b> Disaster management and recovery</li> </ul>
	<b>3.3</b> Conduct further research and evaluate the current sustainability of health information technology investments
	<b>3.4</b> Develop a business case to investigate emerging data transmission technologies
	<b>3.5</b> Promote the sharing of IT adaptations, modules, requirements, components, methods, etcetera
	<b>4. Improvement of data integration, quality and sharing</b>
<b>4.1</b> Investigate the feasibility of a regional data warehouse (i.e. a system of linked databases, aligned around agreed standards of data and metadata quality, with user-friendly access)	
<b>4.2</b> Implementation of an international standard or code of practice regarding data sharing	
<b>4.3</b> Develop a core dataset for sharing of health information	
<b>4.4</b> Develop, document and disseminate data quality standards, including best practice for data collection methods	
<b>4.5</b> Develop and implement a systematic, regular and institutionalised system for the supervision, monitoring and evaluation of data quality, covering all activities from data capture to data processing and analysis	
<b>4.6</b> Conduct regular, systematic and institutionalised monitoring and review of HIS including: <ul style="list-style-type: none"> <li><b>a.</b> Periodic review of information requirements</li> <li><b>b.</b> Continuous monitoring of disease surveillance systems</li> <li><b>c.</b> Monitoring and assessment of the efficiency of the core and support components of the HIS</li> </ul>	
<b>4.7</b> Conduct a regional review of the role of health surveys and develop a strategic plan to identify which information should come from routine HIS and which should come from health surveys	

<b>5. Development of policies, regulations and legislation on HIS-related issues</b>	<b>5.1</b> Establish policy to facilitate the linkage of information
	<b>5.2</b> Provide/strengthen the legal basis for different HIS-related activities (e.g. vital registration system, reporting of notifiable diseases, data collection from private health sector, use of electronic medical records, etc)
	<b>5.3</b> Prepare and disseminate user's manuals and policies for the HIS and each of its sub-systems (e.g. hospital, public health, human resources, finance, etcetera)
<b>6. Enhancement of HIS leadership and sustainable governance</b>	<b>6.1</b> Create a high level inter-agency multi-sectoral leadership forum: to include lead institutions and persons (champions) in each key agency (across health and non-health sectors at national and sub-national levels) that can guide and oversee a broad set of stakeholders toward the realization of an integrated, unified, and adequately resourced HIS
	<b>6.2</b> Develop the core specifications for a health information governance structure, including: <ul style="list-style-type: none"> <li><b>a.</b> Establishing an interagency coordinating body or Health Information Steering Committee with an Official mandate and high level representation to generate political support, set direction, and provide oversight for a visible national HIS strengthening effort</li> <li><b>b.</b> Creating HIS technical workgroup(s) as needed to address priorities</li> </ul>
	<b>6.3</b> Enhance leadership skills, organisation development, change and risk management of HIS
	<b>6.4</b> Expand linkages with private sector through partnerships and technical advisory groups and extend coordination at the sub-national level

## COUNTRY ACKNOWLEDGEMENTS

### 2009 PHIN Meeting

Australia  
Cook Islands  
Federated States of Micronesia  
Independent State of Samoa  
Papua New Guinea  
Republic of Fiji  
Republic of Kiribati  
Republic of the Marshall Islands  
Republic of Nauru  
Republic of Vanuatu  
Solomon Islands  
Tonga  
Tuvalu

### 2009 HIS Development Forum

American Samoa  
Australia  
Cook Islands  
Federated States of Micronesia  
Independent State of Samoa  
Republic of Fiji  
Republic of Kiribati  
Republic of Palau  
Republic of Nauru  
Papua New Guinea  
Republic of Vanuatu  
Solomon Islands  
Tonga

### 2010-2011 PHIN Planning Group

Australia  
Cook Islands  
Independent State of Samoa  
Republic of Fiji  
Federated States of Micronesia  
Republic of the Marshall Islands  
Republic of Nauru  
Solomon Islands  
Tonga



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