



MULTI-LEVEL PRO-POOR HEALTH GOVERNANCE, STATISTICAL INFORMATION FLOWS, AND THE ROLE OF REGIONAL ORGANIZATIONS IN SOUTH-AMERICA AND SOUTHERN AFRICA¹

Ana B. Amaya, Stephen Kingah and Philippe De Lombaerde²

PRARI Working Paper 15-1



¹ The research for this Working Paper was carried out with support from the UK ESRC-DFID Poverty Reduction and Regional Integration (PRARI) research project (Grant Reference ES/L005336/1), led by The Open University, UK. It does not necessarily reflect the opinions of the ESRC or DFID.

² All authors are affiliated with UNU-CRIS. Corresponding author: aamaya@cris.unu.edu. The authors thank Johanna Bögel, Ian Freeman and Thiago Garcia for their help with data collection on national health systems in Swaziland, Bolivia and Paraguay, respectively; as well as Lien Jacques for her help with the figures. The authors also thank Nicola Yeates, Pia Riggirozzi, Marcelo Rojas Mattos and Mubita Luwabelwa for their comments on a previous version of this paper.

Abstract

In the past decades, health governance has become multi-layered as the combined result of decentralisation, regional integration and the emergence of new actors nationally and internationally. Whereas this has –in principle – enhanced the installed capacity for health response worldwide, this complexity also poses serious challenges for health governance and policy-making. This paper focuses on one of these challenges, namely the organisation of statistical information flows at and between governance levels, and the emerging role that regional organisations play therein. Our aim is to understand the extent to which statistics are regionally coordinated and the role regional organisations are playing with respect to national health information systems.

In this paper, we address this aim by analysing regional to national-level data flows with the use of two case studies focusing on UNASUR (Bolivia and Paraguay) and SADC (Swaziland and Zambia). Special attention is given to pro-poor health policies, those health policies that contribute to the reduction of poverty and inequities. Our results demonstrate that health data is shared at various levels. This takes place to a greater extent at the global-country and regional-country levels, and to a lesser extent at the regional-global levels. There is potential for greater interaction between the global and regional levels, considering the expertise and involvement of UNASUR and SADC in health. Information flows between regional and national bodies are limited and the quality and reliability of this data is constrained by individual Member States' information systems. Having greater access to better data would greatly support Member States' focus on addressing the social determinants of health and reducing poverty in their countries. This has important implications not only for countries but to inform regional policy development in other areas. By serving as a foundation for building indicator-based monitoring tools, improving health information systems at both regional and national levels can generate better informed policies that address poverty and access to health. In addition, making this data available would provide a solid basis on which to identify the contribution of these organizations and ensure governments are upholding their commitments to addressing health challenges and reducing poverty. The rise of regional-level influence must be capitalised on to address poverty, particularly in the framework of the sustainable development goals.

Contents

1. Introduction	6
2. Research design	9
3. Global-national information production and sharing	10
3.1. Global level.....	10
3.2. National level	13
<i>Bolivia</i>	13
<i>Paraguay</i>	17
<i>Swaziland</i>	20
<i>Zambia</i>	25
4. The role of regional organizations	29
4.1 UNASUR region	30
<i>Role of UNASUR in data management</i>	31
<i>Targeting: the poor and cross-border diseases</i>	32
<i>How does UNASUR support their Member States?</i>	33
4.2 SADC region.....	34
<i>Role of SADC in data management</i>	35
<i>Targeting: the poor and cross-border diseases</i>	41
5. Discussion of findings	43
6. Conclusions	46
References	47

1. Introduction

A fundamental shift in global health has taken place in the past decades. A multiplicity of actors has emerged in the health response, not only international organizations but also new funding bodies and donors whose participation in the global health field has changed the health system landscape (Taskforce on Health Systems Research, 2004). At the same time, national health systems have become multi-layered because of processes of decentralization and devolution, while regional bodies are taking on a growing role in health data systems due in part to their remit around cross-border health risks. Due to the complexity of global health governance, which is constantly adapting to a growing number of stakeholders and their evolving relationships (Hill, 2011), and the increasing criticism on the World Health Organization (WHO) and other global agencies in steering the health response, there have been increasing calls for institutions that can broker the relationship between global organizations and countries (Frenk, Gomez-Dantes and Moon, 2014), as well as between state and non-state stakeholders (Ottersen et al., 2014).

Regional bodies have been involved in health issues for some time now, although in varying degrees. Their increasing influence on global health policy-making has been frequently discussed (United Nations, 2013). The EU for example, is widely involved in health, focusing on health within the Union as well as its interaction with other countries outside of it (European Union, 2014). However, other regional bodies have centered their work on the traditionally relevant areas of trade, economic and migration issues and do not see health as a policy priority (Riggirozzi, 2014).

The health response in every country is contingent on the production and implementation of policies, that are usually decided at the higher political levels of the health system (Caldwell and Mays, 2012), according to how the health system is organised. These policies are decided based on understandings and constructions of the causes of ill health and poverty, resources available, disease burden and local needs (Levine et al., 2004). The use of evidence-based decision-making that also reflects best practices has indeed been seen as a characteristic of well-functioning health systems (Atkinson et al., 2005; Dawad and Veenstra, 2007; Kuruvilla et al., 2014). However, policies have also been found to be influenced by politics, public pressure, vested interests and in some cases, corruption (Green et al., 2011; Kapiriri et al., 2005). In this case, a pro-poor health policy approach would mean that health is addressed with the objective of improving wellbeing and reducing poverty

and inequalities.

The process of forming policies is highly contingent on the availability of data to inform the decisions that are made. At the national level, data is collected, processed, reported and used with the support of national health information systems (WHO, 2008), which collect this data through a variety of methods such as health facility data, administrative returns, household surveys, censuses, vital registration, national health accounts and health data (Carraro et al., 2003). Although the majority of this data is generated at the local or community level and then reported to the higher levels, it is rarely fed back to the primary level of care (Abouzahr and Boerma, 2005).

Data sharing is important because it allows actors at all levels, whether they are donors or physicians implementing the policies, to understand the reality of the epidemic burden in the countries and the inputs available at their disposal. This allows for more efficient use of resources and the ability to target specific populations that may be overburdened by disease. Furthermore, reliable data is also crucial to ensure decision-makers are accountable to their commitments. While regional influence can have an impact on national policies, researching data flows invariably requires understanding how country context has an impact on this process. Therefore, understanding this link between research and policy is fundamental to shifting towards evidence-based policy-making through a mechanism that has been termed knowledge translation, which requires the identification and communication of key messages for target audiences in a language appropriate for this audience (Grimshaw et al., 2012). Once policies are formulated and accepted based on data, they are then operationalised and implemented at the local levels (Plochg and Klazinga, 2002).

Accounting for data that address health and poverty is one of the core goals of this paper. How poverty-related health data is collected and approached at the global level has trickle down effects on how countries address this issue. Historically, the approach to poverty has been closely associated with the political views of actors involved (Noel, 2006). A prime example are the grouping of infections classified as neglected tropical diseases (NTDs). These diseases primarily affect the poor due to lack of proper sanitation and access to basic services. In terms of data availability, it is important to note that NTDs were previously not subjected to compulsory reporting in some countries since they were not considered a major public health threat as other diseases such as HIV/AIDS, tuberculosis and malaria (Ehrenberg & Ault, 2005). This significantly decreased their

visibility at the global level, leading to less donor investment. Moreover, given the populations they affect, there is less interest in generating research for the development of new diagnostics, vaccines and drugs by the private sector (Moon, Bermudez & Hoen, 2012; Trouiller et al., 2002), further compounding the problem of lack of affordable interventions. Within this complex system of global health governance, it is important to ask to what extent are actors sufficiently informed to be able to prioritize actions at the global, regional and local level. What is the monitoring capacity of these actors and do they communicate with each other? Do the regional organisations compile and process the health information from their member countries? Do they support these countries to collate that data and/or to improve data quality or strengthen capacity of countries to manage this data? How do regional organisations in practice use available data in support of regional health (and poverty) goals? Are there any discernible differences in approach to health information that might reveal differences or tensions in what are considered to be matters of strategic public and policy importance? What are the points of institutional connection and fragmentation between national and regional spheres of governance in respect of data collection and usage which may enhance/hinder the realisation of strategic goals? Furthermore, given the inextricable links between poverty and health, it has become increasingly important to understand whether regional organisations are key actors driving progress towards inclusive health systems, policies and services.

This Working Paper examines regional and national level sharing of data in order to set a baseline from which to work on for the posterior development of indicator-based monitoring tools to measure and assess the contribution of these regional organisations in the development of successful pro-poor health policies. Mapping policy-making processes around data flows and coordination allows us to identify what institutional mechanisms are place to develop pro-poor policies and what information is available to monitor and support the development and implementation of these policies.

2. Research design

The cases that were selected in this comparative study are the ones that are being analysed in the PRARI project, of which this paper is one of the outputs.³ The Southern African Development Community (SADC) and the Union of South American Nations (UNASUR) were selected because they both lead regional theme-specific networks and country-based working groups to implement health projects; they both enable initiatives referring patients between member states; they provide leadership with respect to the dissemination of research and communication technologies for practitioners and policy-makers; they support health surveillance; and – finally - they lead regional strategies for the production and commercialization of medicines.

Both SADC and UNASUR have formulated goals and have developed institutional competences in the areas of health and poverty reduction, in order to address the high levels of poverty incidence and the challenges their health systems face (SADC, 1999; UNASUR, 2009). Although we find parallel goals in SADC and UNASUR, policy development practices and methods have taken different forms and, as we shall see later in this paper, this also translates into differences in the information systems underpinning policy development around health and poverty in the regions.

In order to answer the research questions mentioned before, health information flows will be mapped in the two regional cases and four country cases, with special attention going to vertical interactions between the various governance levels. This exercise will inform a wider goal of collaboratively developing indicators with stakeholders in these two regions through a participatory research approach (PAR).

³ See, <http://www.open.ac.uk/socialsciences/prari/index.php>

3. Global-national information production and sharing

As policy-making involves a multiplicity of actors at the global, regional, national and local levels, this is also the case for data generation, compilation, management and reporting that provides an input for these decisions. The starting point for our analysis is the interaction between the global and national levels. In the next section (section four), the –generally more recent- role of regional organisations will be discussed. We first look at the role of global institutions, after which the national level will be analysed. The latter will be done by focusing on two case studies in each region: Bolivia and Paraguay in South America, and Swaziland and Zambia in Southern Africa.

3.1. Global level

Global institutions such as the WHO, through the WHO Global Health Observatory, provide a composite of data and analyses on health priorities that allow for comparative health analyses, identification of health trends and determinants that in principle support decision-making at the global and national levels (WHO, 2014d). The statistics collected by the WHO cover diseases, immunization levels, reproductive health figures, and data on health personnel, among other information. The Health Metrics Network (HMN) is a WHO initiative that supports countries in strengthening their national health information systems and to improve the generation of health statistics (HMN, 2013). Moreover, the yearly ‘World Health Statistics’ report compiles health data from its 194 member states, which also includes progress towards the health Millennium Development Goals (MDGs) (WHO, 2014d).

WHO is also present at the regional level through its six regional offices, which have each established health databases for their countries. The majority of this data is based on country and WHO data. However, the EURO office through its ‘European Health for All Database’ also includes data obtained from the statistical office of the European Union (EUROSTAT) and the OECD. This information is updated twice a year (EURO, 2013).

The Regional Office for Africa of the WHO (AFRO) has created the African Health Observatory (AHO), which is responsible for health-related data. The African Health Observatory (AHO) is “a web-based platform that serves four functions: a) Storage and sharing of data and statistics for elaboration and download if needed; b) Production and sharing of evidence through the analysis and synthesis of information; c) Sustaining networks and communities, for better translation of evidence; and d)

Supporting countries to establish national or sub-national health observatories” (AHO, 2014a). The African Health Observatory publishes reports on the health system, including the processing of health-relevant data in Swaziland and other health-relevant reports, factsheets amongst others (WHO, 2010, 2010a, 2010b). The information is categorized according to male/female; rural/urban and income-groups. As such, a clear effort is made to disaggregate data.

The African Health Observatory cooperates with other actors on the same level in producing these outputs. Other actors that contribute relevant information to these reports are UNICEF, UNESCO (Institute for Statistics), the UN Statistical Division, the MDG database, the Organization for Economic Cooperation and Development (OECD) - Development Assistance Committee (DAC), the World Bank, the International Telecommunication Union, and the United Nations Population Fund (UNFPA) (WHO, 2010a). Also, it is mentioned that it makes use of unspecified national data, which has been adjusted for underreporting (WHO, 2010a).

The WHO office for the Americas, the Pan American Health Organization (PAHO), has developed several databases with composite and disaggregated indicators from member countries. These include the basic health indicator database with 114 health indicators that are organised under the categories of demographics, morbidity and risk factors, mortality, resources and health coverage, as well as socioeconomic data. Data sources include the PAHO Health Information Platform (PHIP) and country representatives through the basic indicators online data entry tool (PAHO, 2013). The PHIP is an innovative platform that integrates data from the PAHO core health indicator initiative, the regional mortality database and data from different health areas within PAHO. This aims to facilitate health analysis, monitoring progress of key health indicators, predict public health issues and support timely decision-making in the region, among other things (PAHO, 2015). Finally, PAHO publishes the Health in the Americas report every five years where information is compiled processed and reviewed by PAHO in collaboration with country officials to provide an overview of the region in health (PAHO, 2013).

The Economic Commission for Latin America and the Caribbean (ECLAC) is also an important UN office that publishes a yearly statistical book on Latin America and the Caribbean, as well as sharing information on poverty and inequities in this region through various publications and dedicated databases (ECLAC, 2014). Other UN agencies such as UNICEF and UNAIDS have established systems for monitoring progress in health among children and women and HIV/AIDS in the countries, respectively. These result in reports that are published periodically and are available to the public

(UNICEF, 2015; UNAIDS, 2015). Furthermore, UNAIDS relies on civil society organisations for the generation of data for several indicators related to their work, in areas such as young people, key high-risk populations and pregnant women (UNAIDS, 2015). They also collect data on national spending on HIV/AIDS through their National AIDS Spending Assessments (NASA) tool and the Global AIDS Response Progress Reporting (GARPR) tool developed in coordination with WHO, UNICEF and the European Centre for Disease Prevention and Control. This tool includes indicators collected through population based sample surveys, behavioural surveillance surveys, patient tracking systems, health information systems, sentinel surveillance, among others (UNAIDS, 2015).

Health-related demographic statistics are collected (from the national authorities via the Vital Statistics Questionnaire) and published by UN Statistics Division (UNSD). These include disaggregated natality and mortality statistics, including deaths by cause as collected by WHO. UNSD is also active in the area of human functioning and disability statistics.

On the other hand, the World Bank has also been at the forefront of sharing data through their World Development Indicators (WDI) database not only around economic indicators but also health, nutrition and population statistics (World Bank, 2014). The HealthStats database draws from the WDI as well as other data sources such as household surveys, WHO, UNICEF, FAO, UNDP, UNFPA, OECD and other country sources (World Bank, 2013).

Besides the World Bank, funding agencies that emerged in the past fifteen years have been increasingly important actors in global health and through their activities they have also been involved in data generation. The Global Alliance for Vaccination and Immunization (GAVI) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) have been recognised for their transparency in reporting financing and results data for their activities and making them available to the public (Spicer et al., 2010).

As explained later on in section 4, regional organisations have a potential role in mediating between the global and the national levels by using their familiarity and convening power among their Member States to promote the adequate collection of need-specific data at the national level and harmonize data at the regional level. This would generate new possibilities for information exchange with the global level, where these organizations could establish themselves as authorities in the field of health or other social issues for their regions.

3.2. National level

Bolivia

The Ministry of Health (MoHB) is the main health actor in Bolivia and it is responsible for collecting, storing, presenting and publishing data on health. This role is coordinated with the Ministry of Development and its sub-division, the National Institute of Statistics. As most Latin American countries, the Bolivian health system is composed by the public, the private and the social security sector. The public sector health facilities are categorised according to their level of attention through the coordinating network and health system (SEDES). Primary and secondary care services, where general physician and specialized care services are conducted, are located at the municipal level and tertiary care, usually taking place in large hospitals, is located at the departmental level. In terms of organisation, the health facilities located at the municipal level are coordinated by the network coordinators. At the same time, the departmental level falls under the responsibility of the *Servicio Departamental de Salud* (SEDES) and at the national level, the Ministry of Health. All of these compose the Bolivian health system (MoHB, 2014). The private sector is meant to report to the SNIS but in reality only a small proportion of these establishments do. One of the reasons for this is that a large part of the private facilities are not registered by the departmental-level SEDES. Figure 1 provides a visual representation of these national-global data flows. As this figure shows, the national level provides information directly to the global level.

All of the public sector facilities report to the National Institute of Statistics (SNIS), which means that information is centralised in one place yet major weaknesses exist in terms of quality of data. This institute collects data at the departmental, provincial and municipal levels and data is subdivided into three areas: women, children under five and services. This data is mainly collected through clinical health forms that are filled in at the hospital level but is also supported by household surveys that are conducted since 1978. The Institute also collects data through surveys, which include permanent household surveys, integrated household surveys and national employment surveys (SNIS, 2014).

One such survey is the ENDSA, a large-scale national survey conducted periodically since 1989. This survey collects data from household interviews and is funded by the National Bank of Bolivia, USAID, World Bank, UNFPA, UNDP, PROHISABA, UNICEF, AECI, PAHO and CIDA. Information collected centres on areas such as family planning, infant mortality, child health, breast feeding and nutrition, domestic violence, attitudes towards HIV/AIDS and female empowerment. The last survey was conducted in 2008

in collaboration between the MoHB, the National Statistics Institute (INE) and with technical assistance from USAID. This survey covered over 20,000 households in a period of 17 months through two stages. This survey is considered the main reference for public policy design around health and nutrition in the country (ENDSA, 2008).

The national health information system collects health sector and other sectoral information at the different levels of the health system, which allows for the analysis of the social determinants of health and contextual factors that affect health. This system is composed of several information subsystems in order to provide for an agile system that can support the generation of timely and reliable information to support decision-making. Health officials are trained in the analysis and interpretation of this data for the formulation of policy recommendations. It is important to note, given our interest in pro-poor health policies that the Drug Unit within the Ministry of Health and Department of Epidemiology has created a Health Situation Room where one can find updated data about medicines, prices, main health problems, cost of health care per capita and data on donor funds. At the ministry level this is a priority both to curb costs of drugs as well as to make more effective use of resources (SNIS, 2014).

In addition to these health officials, committees for the analysis of information (CAI) have been established at different levels of the health system in order to obtain a comprehensive and disaggregated view of health actions and to provide inputs for decision-making, as well as adapting and adjusting health plans according to need. Moreover, these CAI are composed by smaller offices, which periodically meet to analyse information and make decisions (SNIS, 2014).

The SNIS has also collaborated with other actors, namely UNICEF in a project that took place in 2000, which conducted household surveys requesting information among other areas on literacy levels, water and sanitation, child mortality, contraceptive use and immunisation levels (SNIS, 2000).

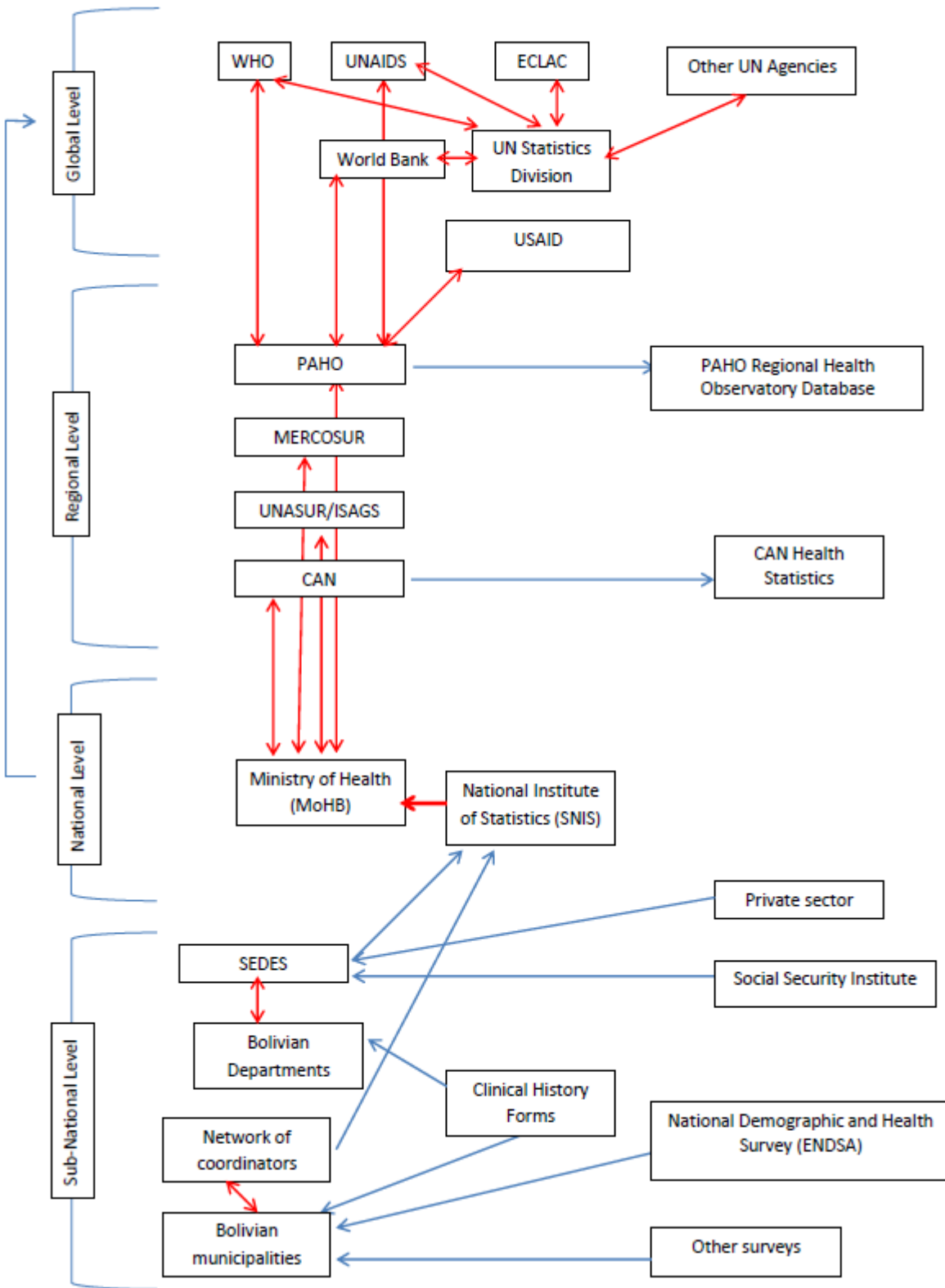
In addition to information sharing at the regional level, Bolivia also reports the regularly-mandated indicators required by global actors such as the World Health Organization. Two examples are the inputs provided to the Global Health Observatory in the WHO and UNAIDS. Information from the SNIS and MSD surveys are shared with the Global Health Observatory at the WHO level, in addition to WHO and World Bank data (WHO, 2014). In the case of UNAIDS, they draw on data from the National Health Survey

(ENDSA), the National Health Information System (SNIS) and a National Study on HIV and Sexually Transmitted Diseases (PREVETS) (UNAIDS, 2011).

However, important data quality issues are still observed. These issues are mainly related to lack of reporting of all health services. This underreporting is partly related with the manner in which data is shared that in some areas is still done manually, which can explain reporting problems due to the extra data burden on health workers. The SNIS has begun to expand their computerised system in all health services but this has not been completed yet due to logistical problems such as lack of computers or access to the internet. Another perspective is that health personnel may overestimate to reach targets.⁴ For our purposes, these issues have several implications since the problems with quality and reliability of data at the health facility level hinder appropriate decision-making and these data issues trigger a domino effect where each subsequent level, going through the regional and global levels, work on this faulty data. This can also explain how insufficient funding of the health sector has repercussions on data quality. This in turn can have an impact on the appropriate targeting of activities and resources to key populations.

⁴ M. Mattos, personal communication, February 3, 2015.

Figure 1: Information Flows – Bolivia



Paraguay

Paraguay is a landlocked country composed of 18 departments (that include the capital region) and 218 districts. The health system is highly fragmented at the provider level, lacking coordination between subsectors. This results in an overlap in functions between the Ministry of Health (MSPyBS), the Social Welfare Institute (IPS) and the private sector. This lack of coordination has generated a concentration of health services in some geographical areas, while others are effectively ignored (USAID, 2008). The MSPyBS is responsible for coordinating the health data generation and monitoring efforts in the country. This responds to the country's goal of achieving the MDGs and following the regional guidelines established by UNASUR and PAHO (MSPyBS, 2012).

The main office responsible for managing the health information system is the General Office for Strategic Health Information (DIGIES) and its subdivisions (figure 2 represents the structure of the health information system and its relationship with other organisations). In addition to this, another division of the ministry of health, the Office of Information Technology and Communication manages 13 sub-systems specific for different health data. Some examples of these are the vital statistics information sub-system (SSIEV), the hospital reporting system (SMH), the automated information system for inventory control (SICAIP) and the national tuberculosis control expert system (PNCT) (MSPyBS, 2012). The Epidemiologic Surveillance Department (SNVS) handles a large amount of information on primary health care and surveillance. Within these sub-systems the SSIEV is the best established system, which allows for disaggregated data at the departmental level (Guillen, 2011). Furthermore, the DIGIES shares data with the General Office for Statistics, Surveys and Census (DGEEC), which also reports data on poverty, inequality and indigenous populations (DGEEC, 2015).

This multiplicity of data sources hinders the ability of human resources to deliver timely, accurate and complete data (USAID, 2008) and it is important to note that there is a lack of data on human resources for health. This resulted in inadequate availability and composition of the health workforce, particularly around the provision of essential health services (Global Health Workforce Alliance, 2011).

Issues around data quality have been raised by the ministry itself. Data generated in one health information sub-system frequently do not coincide with data from the office of biostatistics (part of the DIGIES office), although both statistics are reported to be collected from the activity reports.

Furthermore, although there is a variety of health indicators available, the sources of information are disperse and the manner in which data is presented hinders data analysis, particularly in the health regions (MSPyBS, 2012). According to an annual report published by UNICEF (2010) this is exacerbated by resistance by some officials to share data within a common information system.

Recent efforts to improve the information system with cooperation from Brazil have focused on automating data collection, objective 4 of the 2007-2011 health strategic plan seeking to gradually strengthen the health information system. The use of web-based information systems is relatively new, being implemented in 2009 in hospitals and less complex health centres. The ministry issued a policy on information technology and communication in 2010 and the decision to implement a free software in the ministry was formalised through ministerial decree no. 914 in 2011. Improvements were centred on the implementation of a data centre in the server computers in the ministry; the allocation of computers in hospitals, clinics and family-health units; the expansion of internet access to 72 health service centres; and installing intranet in 32 centres (Guillen, 2011). Finally, one of the positive developments has also been the publication of yearly reports with basic health information published on the MSPyBS website ranging back to 1998⁵.

⁵ These data are available at:

<http://www.mspbs.gov.py/v2/documentacion.php?palabra=no&keyword=&tipo=7&ano=&avanzado=ok&imageField.x=16&imageField.y=3&page=1>

Swaziland

The Swazi Ministry of Health comprises several departments that engage in the generation and communication of health-relevant statistics, such as the Health Statistical Unit, the Monitoring and Evaluation Unit, the HIV and AIDS Information System (see figure 3). Also, the Health Management Information System and its Management System are part of the Ministry of Health. The Health Statistical Unit, where the health information system is located, is part of the Ministry of Health of Swaziland and receives information and relevant data through its regional offices (WHO, 2010). The Monitoring and Evaluation Unit receives reports on a monthly basis from various national registers such as the Maternity Register and family planning Register amongst others. It is part of the Ministry of Health of Swaziland (WHO, 2010).

Swaziland epitomises the typical state of data flows in SADC. As the SADC TeleHealth report makes clear, the flow of data for many countries of the region including Swaziland, remains largely rudimentary and reliant on very inefficient management systems that are still largely non-digitised. The SADC draft TeleHealth report of 2012 appositely captures this state of affairs of the rudimentary nature of data capture in the entire region of SADC. It states that: “[w]ith the exception of Mauritius, the dominant data capture mode at facility level is on paper, and transmission is by hand delivery to the district. At district level there are computers where data are entered. But as there is no connectivity the electronic data are sent on USB keys to the provincial level or to the national level where there are no provinces as in Botswana. Provinces have computers and connectivity and can send data to the central level by email, when email services are available or by USB key when they are not” (SADC, 2012: 22). Swaziland and Zambia are singled out in the report as particularly poor performers in this respect.

In Swaziland, the Health Information System obtains its information from its regional offices, which in turn source data from sub-regional facilities and community-level service points as well as from the Child Immunization Register and Family Planning Register, amongst others. Reporting takes place on a monthly basis (WHO, 2010). The Health Information System is managed by the Health Information System Coordination Committee and produces the Health Information System Strategy (ibid). The Health Management Information System obtains its information from the national census, the Vital Registration Data/Registry, the Population-based Health Surveys, the Disease Surveillance System (WHO 2010) and the Demographic and Health Surveys (CSO Swaziland 2006-2007). The

Disease Surveillance System takes place via *ad hoc* reporting. The Population-based Health Surveys as articulated by the WHO include: 1) the 2000 Maternal Audit and Sexual Reproductive Health Needs Assessment Survey, 2) the 2002 Community Health Survey, 3) the 2002 Risk Factor Survey, and 4) the 2006-07 Demographic and Health Survey (WHO, 2010). According to the Central Statistics Office, “vital statistics are collected from vital events such as Birth, Marriages, Migration and Death. The information is mainly obtained from the Civil Registration. The Division mainly conducts Household- based surveys such as the Inter-Censal Survey and Multiple Indicator Cluster Survey” (CSO website, demography, 2014). The Child Immunization Register and family planning Register process their information further through the regional offices. Regional offices are managed by the Regional Health Management Team (WHO 2010). Information is disseminated further through the Health Information System, which operates at the national level.

The HIV/AIDS Information System is managed by the National HIV/AIDS Monitoring and Evaluation Technical Working Group, which is part of the Ministry of Health of Swaziland (WHO 2010). It receives information from the Regional and Multi-sectoral HIV/AIDS Coordinating Committees (ibid). Regional offices are present in all four regions of Swaziland, i.e. Hhohho, Manzini, Shiselweni and Lubombo. The HIV Incidence Measurement Survey (SHIMS) is also conducted by the Ministry of Health, in cooperation with the US Centres for Disease Control and Prevention (CDC) and ICAP-Columbia University as well as with the Central Statistics Office of Swaziland being mentioned as a stakeholder (K4Health, 2012).

The Central Statistics Office feeds its information to SADC’s Statistical Year Books (SADC, 2011) and to the World Health Organization (CSO website; WHO 2010a 2010b). The Central Statistics Office also runs the databank SwaziInfo, which contains health-relevant information, which is described below (CSO website). The quality of this data has, however, been heavily criticized by the WHO (WHO 2010). Specifically, the WHO report specifies that:

Swaziland has established the ‘SwaziInfo’ (DevInfo) system, which identifies and compiles core development indicators across sectors. These include the health-related Millennium Development Goals (MDGs) indicators. An area of weakness was that reporting against health indicators was inconsistent and incomplete. Although the health related indicators were clearly defined, the actual reporting is not sufficient due to the absence of an effective mechanism for enforcement. For purposes of health sector planning, programme management and performance tracking, the indicators in the SwaziInfo are however regarded

insufficient. A number of critical diseases and interventions were not included. Similarly, indicators for most support systems (e.g. infrastructure, equipment, pharmaceuticals and logistics, and financing) were not included (WHO, 2010: 23).

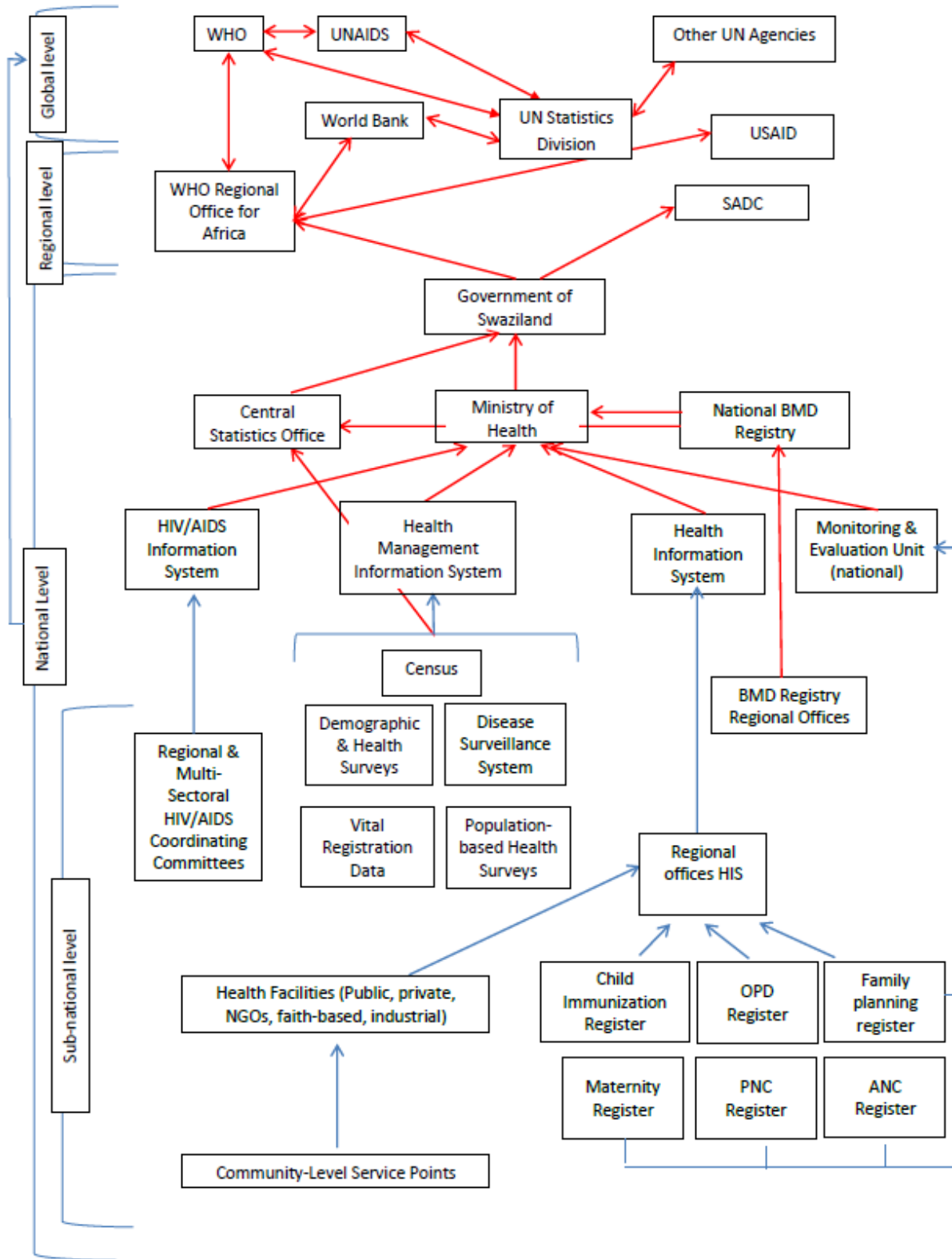
The Demographic and Health Survey is a household-based survey conducted by the Central Statistics Office of Swaziland but also process information through the Health Management Information System, which is part of the Ministry of Health (CSO Swaziland website). The Swazi Demographic Health Survey has so far been only conducted once (2006-2007) and is disaggregated according to gender and age groups (data first, 2013; DHS program 2014).

Community-service points and health facilities exist and process information through the regional offices on a monthly basis (WHO, 2010). The Kingdom of Swaziland's health facilities consist of "14 hospitals of which 6 are private hospitals, 5 government health centres, 6 public health units, 215 clinics and outreach sites" (WHO, 2014). Of all health facilities in Swaziland, "45 per cent belong to the public sector, 12 per cent are owned by industries, 15 per cent by missions, 5 per cent by NGOs, 20 per cent by private practitioners and 3 per cent by private nurses" (ibid). On this level, the Child Immunization Register, Maternity Register, family planning Register, amongst others are generated (WHO 2010). Sub-national offices related to the communication of health-related data present in the four regions of Swaziland – Hhohho, Manzini, Shiselweni and Lubombo – are as follows: The Regional and Multi-Sectoral HIV and AIDS Coordinating Committees, which communicate information to the HIV and AIDS Information System; the Regional Offices of the Health Statistical Unit which is part of the Ministry of Health (WHO 2010); the Regional Offices of the Health Information System, which is managed by the Regional Health Management Team; and the Regional Offices of the Birth Marriages and Deaths (BMD) Registry, which process information through the national BMD Registry (WHO, 2010). Thus, on the sub-national level, there seems to be no point where the information for the monitoring and evaluation unit is aggregated.

In summary, within the Government of Swaziland, the Ministry of Health and the Central Statistics Office are significant actors in generating and communicating health-relevant data. The most important actors and systems in the aggregation and communication of statistically relevant data seem to be the Health Information System, the Health Management Information System, the Health Statistical Unit, the Monitoring and Evaluation Unit and the National HIV and AIDS Monitoring and Evaluation System, which are all within the Ministry of Health of Swaziland. However, what seems striking is the apparently low level of connectedness between the Ministry of Health and the other

actors at the national level, especially there is a lack of a connection between its Health Information System and the Central Statistics Office. The SHIMS and the Demographic and Health Survey seem to be the only instances where data is disseminated between the two.

Figure 3: Information flows: Swaziland



Zambia

Zambia has experienced high economic growth in the last decade, averaging 6% GDP growth rate per year, which has been supported by a stable political system. However, this growth has not translated into significant levels of poverty reduction, demonstrated by the fact that 60 per cent of the population is considered to be living below the poverty line and 42 per cent are considered to be living in extreme poverty (World Bank, 2013). Moreover, the past years have shown low expenditure on health as a percentage of the total budget, demonstrated by the fact that the Abuja target of 15 per cent (WHO, 2014a) was only met until 2015. In addition, the infant mortality rate has reduced from 78 in 2007 to 45 in 2014. Likewise, the maternal mortality rate has decreased from 591 in 2007 to 398 in 2014 (ZDHS, 2014). This is encouraging news yet the country still reports poor health indicators, with lower life expectancy rates of 55 for men and 58 for women than the average of 70 years for the global population (WHO, 2014b).

The health system in Zambia is decentralized, coordinated by two ministries since 2012. The Ministry of Health of Zambia (MoHZ) is responsible for higher level services (second and third-line care, as well as specialised hospitals), as well as health policy and common services such as health infrastructure and procurement of drugs and medical services (MoHZ, 2015). The Ministry of Community Development, Mother and Child Health (MCDMCH) is responsible for lower level services, such as district hospitals, health centres and health posts. To facilitate coordination and interaction between levels, provincial and district health offices, as well as Neighbourhood Health committees (NHCs) at the community-level have been created. Other health service providers include faith-based organisations; civil society organisations; the private sector; traditional health service providers that are not monitored by the MoHZ (MoHZ, 2010).

The health information system is organized under the Health Management Information System (HMIS), which monitors the prioritised indicators and captures data from all public health facilities (see figure 4 for a representation of data flows in Zambia). The HMIS was created in 1996 and has undergone several revisions, which have enabled the incorporation of new and revised indicators to meet data needs and demands. In this regard the HMIS platform has evolved over time and is currently using a web-based District Health Information System (DHIS) as a data management tool allowing for enhanced capabilities of access, timeliness, data completeness, accuracy, transparency

and validation. Specific parts of the HMIS, District Health Information System (DHIS) and the hospital HIS are handled by the respective ministries according to the level of care and mandate.

Currently HMIS has been rolled out to all provinces, districts and health facilities. This has been facilitated through several adopted strategies which include training in data management of staff at all levels in DHIS; continuous revision of HMIS to respond to current data needs; strengthening of data audit , review and supervision; and improved use of HMIS data for evidence based programming. However, the HMIS has not been void of challenges which have led to low stakeholder confidence in the data generated. This is primarily driven by a lack of skilled and designated staff at the point of data collection and some districts, inadequate supervision, limited coverage of a complimentary electronic patient level database and non-submission of reports from some private for profit health facilities, inadequate data collection tools, inaccurate data, existence of parallel reporting systems (MoHZ, 2010).

Data generated by the HMIS is sent to the national level to the Central Statistical Office of Zambia (CSO) for compilation on a quarterly basis. The CSO also compiles other data related to health such as population and poverty data. The health data is also compiled in an Annual Health Statistics Bulletin to inform all actors on the performance and progress of the health indicators. Data generation at the primary level is done by using Registration Books and Patient Files. Specially designed paper forms are used to capture aggregated data for feeding into the HMIS system. Data are initially collected at the primary level. They are then imputed into the system through a specific summary form and then gradually consolidated at the district, province and national levels. Consolidation and analyses at each of these levels are strongly facilitated by the (recently improved) computer queries (AHO, 2014b).

This data is used to support the planning and implementation of activities. According to country reports, “policy and implementation is guided by a balanced combination of top-down and bottom-up approaches, relying on the strategic principles of leadership, accountability and partnerships at all levels of the health system; with MoH serving a stewardship role in these processes” (AHO, 2014b). This information system was upgraded in 2008. The second key routine system is the Integrated Disease Surveillance and Response (IDSR) system (AHO, 2014b).

Moreover, health status indicators are collected through surveys such as the Zambia Demographic and Health Survey (ZDHS), the Zambia Health Household Expenditure and Utilization Service

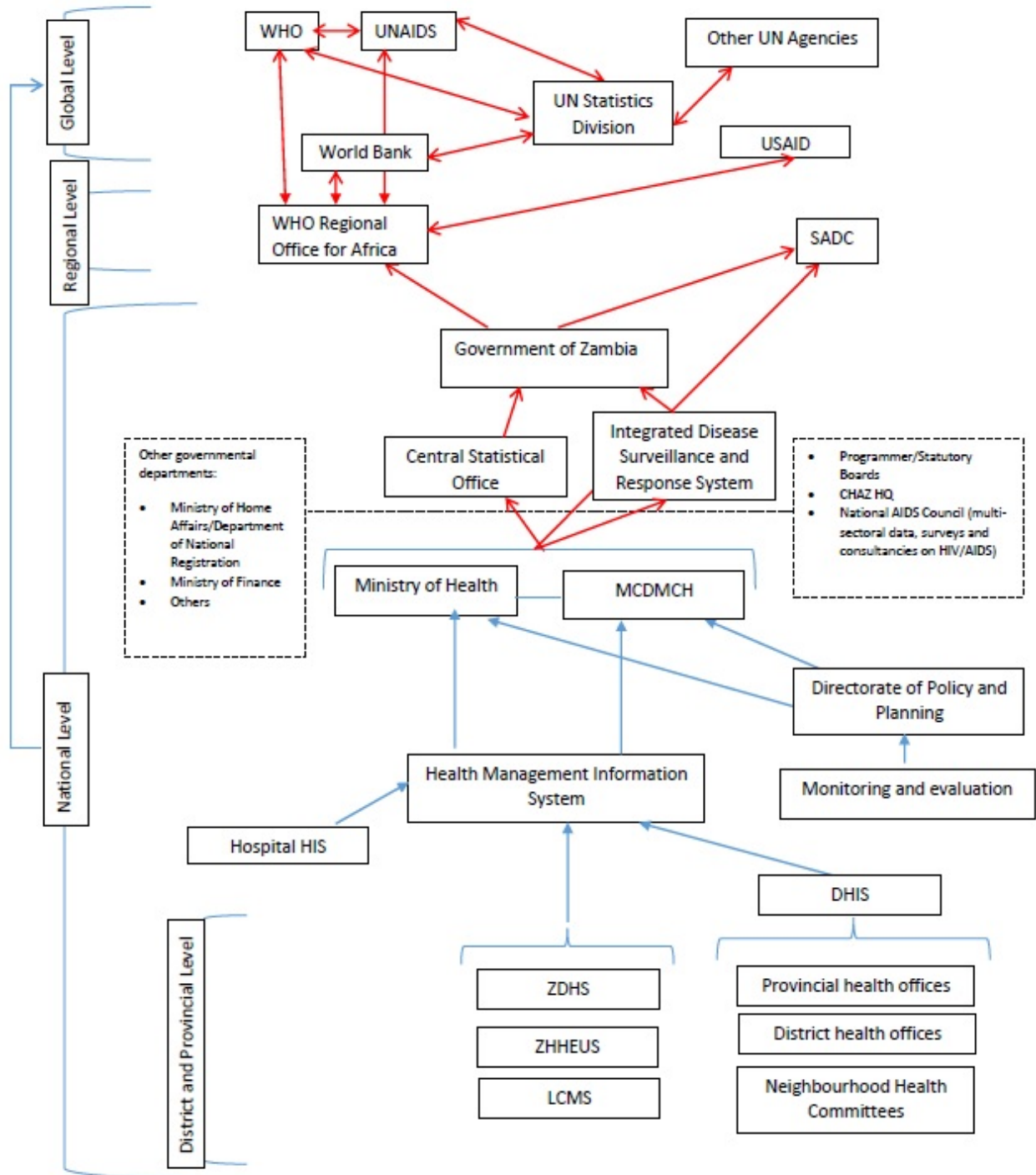
(ZHHEUS) and the Living Conditions Monitoring Survey (LCMS). Civil society organisations, the central statistical office and the University of Zambia collaborate with the ministry to undertake these surveys and collect this data in a timely manner. On the other hand, these indicators are collected via indirect methods through household surveys or censuses where model questionnaires are applied. Better data that would include empirical data would be through vital registration (WHO, 2007). Indeed, the new national health strategic plan for 2011-2015 recognises the need for improved health information systems, particularly related to the distribution of resources (MoHZ, 2010). This report outlines five strategic directions to improve the national health system: Strengthening and capacity building of health information cadres at all levels in order to improve the efficiency, quality and timely availability; Strengthening data capturing capacity of HMIS to include other important conditions e.g. NCDs and eye disease; Rollout and strengthening the HMIS to all public and private Hospitals and at community level; Strengthening the harmonisation and co-ordination of different health information systems among programmes; and Supporting the use of research evidence to translate knowledge into policy and practice.

The WHO published a report in 2007 assessing the health information system in Zambia and found that the quality of health indicators on health status and health system is adequate, except with respect to disaggregation (WHO, 2007). Since then, the Ministry of Health has made important efforts; data published in the most recent Zambia Demographic and Health Survey (ZDHS), poverty mapping and ZHHEUS is now disaggregated to lower levels such as provinces. In some cases, this goes as far as district and ward levels (ZDHS, 2014). As previously mentioned, disaggregated statistics are particularly important for reaching low-income groups since knowing what populations are most affected by poor health can help target intervention towards these groups.

There have been several efforts by SADC to support the health information system in Zambia. An example is the SADC Pharmaceutical Business Plan 2007-2013 that aimed to ensure the availability of essential medicines, in order to reduce disease burden in countries. For this, Zambia collaborated with the WHO for the collection of data on pharmaceutical availability in the country (SADC, 2006). At the same time, SADC reports health data on all member countries in the SADC Statistics Yearbook, which allows for a visualisation of the health situation in the region. As we will see in the SADC section, this data distinguishes between rural and urban populations but is not further disaggregated. This may partly be due to the differing capacity of Member States to report this type of data, which explains the decision to opt for cross-country comparable data. As a member of SADC,

Zambia is also a signatory of the SADC health protocol, which includes an article on health information systems (SADC, 1999).

Figure 4: Information flows: Zambia



4. The role of regional organizations

While the information flows between global and national levels, and between national and local levels have been widely studied, little is known about the sharing of information between regional bodies, on the one hand, and the country and global levels, on the other. Below, we outline the involvement of the regional bodies in the case of UNASUR and SADC.

4.1 UNASUR region

UNASUR was created in 2008 after 12 governments¹ signed the Constitutive Treaty of the Union. Members include all MERCOSUR (Common Market of the South) member states, all Andean Community (CAN) member states, together with Chile, Suriname and Guyana. UNASUR's stated objective is highly focused on reducing inequality and promoting social inclusion (UNASUR, 2009), signalling a commitment to work with disadvantaged populations.

The South American Health Council was established in 2008 and is a permanent body composed of ministers of health from the UNASUR member countries. This provides a space of dialogue to support policy-making around health, which incorporates efforts from other regional bodies, such as MERCOSUR, ORAS, CONHU and ACTO (ISAGS, 2013). A health-specific body, South American Institute of Government in Health (ISAGS) was created in 2010, following the recommendation of the South American Health Council, to provide a space for managing and producing knowledge, developing leadership, and providing technical support (UNASUR, 2009). The ISAGS is further composed of sub-committees, networks and working groups and each has a specific policy focus. This also resulted in the publication of a five year work plan (2010-2015) that currently steers their work (UNASUR, 2009).

This work plan is organised around six strategic objectives and 28 expected outcomes. Each objective is led by one country with an alternate country coordinator and address: universal health coverage and access to pharmaceuticals; universal health systems; surveillance and response; social determinants of health; and human resources development and management (UNASUR, 2009). This plan entailed the generation of baseline data and the development of indicators to measure targets. However, an evaluation conducted in 2013 found that there are no existing coordination or surveillance mechanisms to monitor the execution of activities within this plan but instead guidelines for data collection existed. The authors also found that proposed objectives cannot be

currently modified due to a lack of directives and were hindered by poor continuity of activities due to changes in personnel. Furthermore, an important recommendation was the creation of regulations to ensure periodic reporting of activities by Member States so information could be circulated among the different actors. (Garron, Faria, Giler and Mattos, 2013).

Indeed, health surveillance and strengthening these surveillance mechanisms are some of the core objectives of UNASUR since data generation and analysis are seen as having a crucial role in reducing asymmetries between the Member States (UNASUR, 2009). In this, ISAGS has an important role by advising countries and generating capacities. Moreover, the creation of universal health information systems around best practices has been mentioned as a key step towards universal health systems (ISAGS, 2013) yet this has not been operationalised. Indeed, the UNASUR network of national health institute (RINS) laboratories convened in 2012, recognising the importance of integrating the country health information systems for epidemiological surveillance purposes, recommended that bilateral activities should be organised for this purpose (UNASUR, 2013) but there is no evidence that this has been conducted.

Role of UNASUR in data management

UNASUR does not generate health data itself but compiles and reports data from its member countries to provide policy recommendations. ISAGS provides data analysis and policy recommendations, as well as produces publications such as the “Health Surveillance in South America” book that provides an overview of the health situation in their member states, drawing on health data from other institutions such as PAHO, WHO, UNAIDS, UNICEF, as well as from member countries; and from the World Bank, UNDP and UN for statistics on social determinants of health (ISAGS, 2013b).

Although the technical groups and networks are involved in the promotion of common health policies, they are not involved in the collection of primary data nor do they have databases to collect data. However, they do participate in mapping efforts and cancer registries for the coordination of national cancer institutes from the member countries and produce policy recommendations (ISAGS, 2013). While developing a system for cancer registration among member states is a positive development, it may signal the creation of separate information systems for different health areas, which may contradict UNASUR’s focus on universal health systems.

Member states generate health information through their national health systems and communicate this at the UNASUR level through the ministerial meetings, working groups and other committees. Furthermore, data generated from the countries also supports the work of ISAGS in developing policy recommendations and providing technical support.

Targeting: the poor and cross-border diseases

Addressing social determinants of health is one of the strategic objectives of the health five year plan. This objective seeks to reduce inequalities in each of the member states through the generation of information, intersectoral partnerships and community participation in the formulation, execution and follow-up of public health policies (ISAGS, 2009). Given UNASUR's focus on universal health coverage, it is not surprising that social determinants of health constitute one of the main objectives. Within this area they seek to train health officials on social determinants of health, involve local activists in the generation of plans and promote the development of public health policies (Consejo de Salud Suramericano, 2010).

While UNASUR does have a mandate to develop activities focused on the poor and improve equity and publish reports on these issues, data is taken from external sources and the member states. Furthermore, although some countries have available disaggregated data for different population quintiles, others do not. Moreover, this does not seem to cover all indicators but just specific ones around maternal and child health, for example, which are reported as part of monitoring progress on the MDGs. It is important to note that while this limits UNASUR's ability to monitor progress towards inclusive care, UNASUR does not arise as a supranational body, which means it respects the autonomy of countries including their health monitoring systems. In the case of ISAGS, their role is to strengthen country capacities while respecting individual surveillance systems and data collection mechanisms.

Populations located in high-risk geographical areas and borders are prioritised in UNASUR due to their vulnerability to diseases (UNASUR, 2009). More specifically, the issue of border populations is addressed in the strategic objective on the development of universal health systems by seeking to foster the reciprocity and complementarity in the provision of health services between countries, especially in border areas. They also recognise the already existing bilateral agreements in the region (UNASUR, 2009). Examples of these agreements are those between Argentina and Paraguay that was triggered by efforts to control dengue fever (La Nación, 2013) as well as that between Bolivia and Paraguay (PAHO, 2013).

Despite the important focus on border populations, no primary data is generated at the UNASUR level besides that available in the countries. Information on border populations and diseases is reported by ISAGS in order to support their work but this is usually obtained from the countries themselves.

How does UNASUR support their Member States?

UNASUR is heavily involved in providing technical assistance to its member countries and fostering knowledge and information exchange around best practices, as well as building capacity. Human resources for health development has been one of their cornerstone projects, which has been supported by the Pan American Health Organization. As part of these efforts they have developed an international network for health technicians' education (RETS) that is composed of institutions and organisations involved in the training and qualification of technical personnel in health. This network among other things, aims to support the standardisation of health training across the region (ISAGS, 2013) with the long-term goal of recognition of qualifications between member countries.

Furthermore, the network of public health schools of UNASUR (RESP-UNASUR), is composed of institutions involved in human resources training with the objective to provide a platform for exchange as well as support health systems development in the region (ISAGS, 2013). Initiatives providing technical assistance and training have also emerged bilaterally between UNASUR countries (SELA, 2010). The availability of quality data for UNASUR to conduct its work depends on the mechanisms in place in its member states to collect and analyse this data (see above). However, UNASUR acts as a convening body, through the adequate collection of data and its use in forming policies that address inequalities.

UNASUR can also support their Member States by generating synergies with the global level. UNASUR and, more specifically, ISAGS are frequently asked for input on health issues by institutions such as PAHO and WHO. At the same time, their increasing involvement at multilateral fora such as the World Health Assembly has increased their visibility at the global level and their ability to contribute to shaping the global health agenda (Riggiorozzi, 2014). However, greater coordination and availability of appropriate data that is relevant for their work would support their technical advisory role at the global and national level.

4.2 SADC region

The Southern African Development Community (SADC) was founded in 1992 to replace the Southern African Development Coordination Conference (SADCC) that had been created in April 1980. SADCC in turn was largely built around a constellation of Frontline States that had been established as a bulwark against external influences notably the Apartheid Government of South Africa. SADC's membership is diverse in terms of economic capacities and demographic size. SADC as an institution draws its mandate from the Windhoek Declaration or the SADC Treaty that was endorsed in 1992 and later revised in 2001, 2007, 2008 and 2009 (SADC, 2001). Moreover, SADC is a free trade area since 2008. There were plans for SADC to have a customs union by 2010 but these failed. Previous projections were to have a common market by 2015; a monetary union by 2016 and a single currency by 2018 (Europa World Book, 2008). But these plans are highly unlikely to be met given the delays in compliance with and domestication of economic integration disciplines.

Amongst the goals of SADC as stipulated in its founding treaty is the promotion of peace and stability (Article 5(1)(3)) and the enhancement of development. The latter goal on development is articulated in such terms that SADC aims to use regional integration to support the socially disadvantaged (Article 5(1)(1)). One of the areas where cooperation between the members has been fostered over the years is in social and human development. A major component in this respect includes the promotion of cooperation amongst states in the area of health. SADC states signed the Health Protocol of 1999 after adopting a common health policy approach for the first time in 1997. Following the signing of the health protocol, SADC leaders have adopted many policy documents in health related areas including the framework on health policy that was endorsed in 2000 (SADC, 2007: 7). Other health policy documents are declarations, plans and strategies in the area of HIV/AIDS, reproductive health care, joint pharmaceutical policies and social rights.

SADC has many institutions that have been put in place to sanction the rules and ensure oversight in implementing its disciplines. The main institutions include the Summit of Heads of State and Government; the Organ on Politics Defence and Security Cooperation; the Council of Ministers; the Integrated Committee of Ministers; Standing Committee of Officials; the Secretariat based in Gaborone; the SADC Tribunal and importantly, the SADC National Committees (Article 9). In the consolidated text of the treaty Article 9A incorporates the role of the Troika. An institution that is closely engaged on

social topics especially health is the SADC Parliamentary Forum that is not mentioned in the Treaty itself. Within the Secretariat services are partitioned into five main directorates, four of which deal with substantive thematic clusters and one with policy planning (including monitoring and evaluation across SADC programs and plans). Amongst the thematic directorates there is one that deals with Social and Human Development and Special Programs (SHD). This department has oversight over health policy in SADC. It is tasked with the coordination of health policies of member states and also ensures information exchange as needed.

Role of SADC in data management

The SHD department within the SADC Secretariat plays an important role in policy elaboration; data generation; data compilation; data management and data reporting in the area of health. It derives its mandate from the SADC treaty, which makes clear that one of the goals of SADC is to pursue cooperation in social fields including in the area of health. As such most of the major health related policy documents such as the Maseru declaration on HIV/AIDS, the HIV/AIDS business plan, the pharmaceutical business plan, the business plan on reproductive health amongst others, have all been initiated from the secretariat. But this has not always been the case. Before the major institutional reforms that took place in SADC in 2001, policies were decentralized along national lines (Van Schalkwyk, 2003). As such each SADC member state had the competence to coordinate policies in specific policy areas. For instance South Africa had the mandate to coordinate health policies. In 2001 this changed as SHD absorbed all the competences that were previously handled by Pretoria in coordinating the policies and actions of SADC national health authorities.

A more detailed discussion of the 1999 SADC Health Protocol 1999 (SADC, 1999) is worthwhile at this juncture. The content of the text is very comprehensive in terms of the areas covered. These include: epidemic preparedness; mapping prevention, control and eradication of communicable diseases; education and training; efficient laboratory services; health needs of women, children and vulnerable groups. Article 3 contains many provisions on coordination, collaboration, facilitation, common strategies and promotion in the area of health. In all there are 9 goals elaborated. Article 4 puts in place the institutional mechanisms for implementation. They include the Health Sector Coordinating Unit (HSCU); the Health Sector Committee of Ministers (HSCM); the Health Sector Committee of Senior Officials (HSCSO) and the technical sub-committees. But this protocol was adopted in 1999 and came into force in 2004. It was adopted at a time of decentralization of the SADC services as earlier

underscored. Since 2001, the services are now centralized. Health issues are now coordinated through the SADC Department of Social and Human Development and Special Programs. Article 6 of the SADC health protocol pertains to the sharing of relevant health information and collaboration in health systems and surveillance. Specifically, Article 6(b) evokes the option of conducting Essential Regional Health research and importantly Article 6(c) calls for a common set of indicators for communicable and non-communicable diseases in SADC. Also of relevance to the present study is Article 7, which is on Health Information Systems and notably Article 7(d) calls for the creation of a SADC Regional Data of Health and Social Services Indicators. Apart from these provisions on indicators and health information systems other aspects are also covered in the protocol such as chronic diseases and elderly persons (Article 14); those with disabilities (Article 15) and reproductive healthcare (Article 16). Attention is equally paid to traditional health practitioners (Article 20) mental health (Article 22), environmental health (Article 23) and to cooperation in the area of pharmaceuticals (Article 29).

Articles 6 and 7 on indicators and health information systems are very important in the present task. These articles directly hinge on matters of monitoring of implementation for results. Monitoring issues are now (since 2008), handled by the Directorate of Policy Planning. Within the department of policy planning is a statistics unit with acutely limited staff. The unit that is composed solely of statistics experts is mandated to harmonize a variety of statistical data for the region. The unit also organizes data collection and engages in capacity building initiatives for member states' statistical officials (Jere, 2009). SADC has a Statistics Committee that works closely with the unit but the organization is still to develop a Protocol on Statistics (Jere, 2009). There are standalone arrangements such as year books and reviews to monitor what is going on for instance in the area of foreign trade rather than say health and this task has in the past been actually outsourced to an outside entities due to SADC's acute limited number of experts. That being said it should be noted that SADC has a Regional Statistics Program.¹ What is more, it now has a Regional Strategy for the Development of Statistics that was elaborated in 2012 and will be operational until 2018 (SADC Statistics Strategy, 2012). The template for the strategy builds on the 2010 Strategy for the Harmonization of Statistics in Africa. Amongst the priority areas of SADC Statistics Strategy is health (SADC Statistics Strategy, 2012: 21). The goal for statistical cooperation in health is strengthened collaboration and harmonization. The indicators used include: existence or extent of implementation of harmonized policies on health and nutrition; extent of cooperation among health professionals; existence of operational regional health institutions and facilities; mortality/ health of populations; and service delivery. Within this document, one of the intervention areas is social and human development and special programmes, a cluster that addresses poverty eradication through

sustainable and equitable development, which mainly focuses on reporting indicators such as GDP, income (according to quintiles) and malnutrition. A separate objective within this cluster focuses on collaboration in the health sector. This objective is measured by indicators that related to sanitation, public expenditure on health, among other areas but it is not directly linked with poverty eradication.

In terms of specific health data generation as stipulated in the protocol on health, SHD plays a role. However, also mindful that the manpower within the department is limited (especially regarding health specialists) (Isaksen, 2003: 208)¹ this task of data generation is also often outsourced to external consultancies that are used by the department. Respecting data compilation, the department also tends to outsource this task to outside experts. In any event, it organizes many events and campaigns through which, national data on health is provided to SADC by national officials through SADC National Committees dealing with health.

Health data management is also handled by the SADC Secretariat. Although there is a statistical division that is supposed to manage SADC aggregated and disaggregated data on specific issues as earlier hinted, health data management is usually dealt with by the SHD. Reporting of data is not done periodically by SHD. However, when important policy plans are issued which have been endorsed by the Council of Ministers these are duly reported by the Secretariat. But the SHD also has a more profound role in terms of collecting the data that is reported by the national health services of SADC member states. This flow of information is ensured through formal periodic senior health officials meetings as well as workshops and seminars that are often championed by SADC. The SADC secretariat has been supported by international cooperation or development partners in the areas of data generation, management and reporting. This has either been through direct financial support or through the secondment of statistical experts from specific development agencies who work in-house at the SADC secretariat. Of great import is the role that is played also by non-state actors such as regional non-governmental organizations (NGOs) (Deve, 2012) including the Regional Network on Health Equity (EQUINET) and the Southern African Peoples' Solidarity Network. While the data which NSAs report is not fed directly to SADC they do make a contribution through consultations and seminars when they are called to participate alongside regional policy makers.

SADC has developed a broad policy template that helps it to monitor the implementation of its regional integration disciplines. This is known as the Regional Indicative Strategic Development Plan (RISDP)

(SADC, 2003). It was adopted in 2003 for a period of 15 years. Periodically SADC services and national authorities conduct an assessment of the progress that is being made in meeting the goals set in the plan. For example in the 2011 assessment it was revealed that in the area of social and human development that also includes health only 38 per cent of the planned output had been realized (SADC, 2011: 13). The monitoring of the RISDP is effected thanks to the role of the SADC National Committees in the various member states. They monitor the implementation of the plan at the national level and provide status reports to the secretariat on a periodic basis (SADC, 2003: 151).

SADC publishes a Yearbook, which contains health-relevant data (SADC 2011). While this yearbook is meant to inform stakeholders on the development levels of the Member States and in the section on health it differentiates between rural and urban populations and access to sanitation; it does not go beyond this to disaggregate data into quintiles, which is important for targeting key actions towards vulnerable populations. In the specific area of health the SADC Health Protocol stipulates that indicators of communicable and non-communicable diseases will be developed that will help member states in meeting goals set by the organization in the realm of health. This has not been done despite the call made in a surveillance template developed by the SADC secretariat in partnership with the Centre for the Evaluation of Public Health Interventions of the London School of Hygiene and Tropical Medicine (SADC, 2010: 6). The surveillance template highlights the importance of a SADC HIV/AIDS Harmonized Surveillance Framework. Also it notes that in 2008, member states agreed on creating a set of HIV/AIDS indicators that had to be tracked and reported by them (SADC, 2010: 7-8). A key problem with previous HIV/AIDS indicators used by SADC was the absence of metrics that captured key elements such as paediatric care and emerging issues including male circumcision (SADC, 2010: 11). The HIV/AIDS indicators covered prevention and social mobilization; counselling, treatment, care and support; and resource mobilization.

The surveillance template refers to some of the weaknesses in terms of data flows in the region. These include the failure to meet deadlines of data input submissions; limited local use of data; limited human resource expertise and underdeveloped data quality evaluation mechanisms (SADC, 2010: 6). However the regional organization still plays an important role in coordinating national health strategies. This is the case especially on selected areas of priority such as HIV/AIDS, malaria and tuberculosis; sexual and reproductive health care planning for greater harmonization and evidence-informed policies in these areas by 2015 (SADC, 2012a); traditional medicines; the pharmaceutical business plan (including elements such as stronger regulatory capacity, local production and joint procurement) (SADC, 2007: 4)

amongst others. In terms of data flows, SHD plays an important role in coordinating the work of the national SADC contact or focal points in the various ministries of health. The overall oversight for data management rests with the SADC directorate for policy planning, monitoring and evaluation.

One important area where SADC has made a recent foray and which could enhance its data management efforts is in the field of Telehealth. It is defined as “use of electronic information and communication technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration” (SADC, 2012). It is an area of health that is gaining much traction (Kwankam, 2011: 35). The UN, the WHO and the US’ Centres for Disease Control (CDC) provided technical support for the SADC 2012 Telehealth report. Global eHealth Consultants conducted the fieldwork in member states and collected the needed data for the report that was funded by the African Development Bank. The basis for the study was the demand made in SADC’s health protocol on harmonization in certain aspects as health surveillance and information sharing. In the report a Telehealth Network for Disease Surveillance (TNDS) is proposed that is expected to meet the needs of member states and SADC secretariat in the realm of data management in the area of health. The plans are that the TNDS will help in the timely collection and reporting of health data as between member states and the SADC secretariat. But also within the countries the network will link national health ministries and national referral hospitals and laboratories. It will also serve as an inter-referral platform for SADC states as between themselves and importantly it will also be used as a mechanism for early warning against outbreaks of diseases in the region as a whole. It was initially expected that it would help to connect national databases; linkup people and also forge a Communities of Practice for Disease Surveillance in the region (SADC, 2012: 12-13). It is expected that reporting on key indicators will be done annually by member states and when necessary that the reporting can be done in real time to amply and effectively deal with surveillance. This further corroborates the necessity of vital eHealth infrastructure (SADC, 2012: 25). While expectations for the TNDS have been very high in the region especially amongst practitioners (SADC, 2012: 60), the zeal to pursue plans for the TNDS has been tempered as some SADC states have been reluctant to pursue the plans and alternatives are currently being explored¹. Within SADC, only Mauritius and South Africa are already advanced in the use of Telehealth (eHealth) with advanced ICT infrastructure in place in the two countries. The worst performers in this respect are Swaziland, Zambia and Zimbabwe (SADC, 2012: 15).

An important point to note for the regional level is that SADC foresees the creation of a Regional Development Fund as envisaged under the SADC Treaty (Article 26A) and as noted in the RISDP and

requested by the Summit of SADC leaders (SADC, 2012b: 17). It is hoped that the creation of such a fund will help SADC to put in place mechanisms that can help it in reaching some of its social goals including in the area of health. It is also expected that such a fund could help SADC in developing health indicators such as the ones used for monitoring economic integration (SADC, 2013). However the plans toward this have been timid as donors are reticent about financing the new regional development fund as this may duplicate existing institutions (Inter Press Service IPS, 2013).

SADC has a strong inter-governmental character. Compared to other regional organizations that have supranational bodies such as the European Union's Commission, the institutional density in SADC is light. This is mainly because of the strong role that member states have in shaping national policies. Also, many states gained their independence for the most part during the last five decades. This entails that reluctance to defer sovereignty to supranational bodies such as SADC Secretariat remains sharp as national political masters still dominate policy making.

The national institutions play an important role in terms of health data management. All the 15 SADC member national ministries of health have the responsibility to initiate national policies in this area. Within the various countries special institutions have been put in place to address specific health problems. This is the case with the various national councils that have been created to mainly provide responses to the HIV/AIDS challenge. Respecting data generation, various national health departments are tasked in doing this. In many respects they work closely with national statistical bureaus. These national authorities have the task of compiling, managing and reporting the data that is collected from the various districts and provinces or regions of the various countries.

International cooperation partners equally play a role in all the stages of data generation and management. The EU, the Governments of the United Kingdom, Sweden, France and even the US have programs in SADC that are meant to help some of the statistical offices in sourcing and using health data. Of great importance is also the role that is played by UN agencies especially the World Health Organization, UNAIDS, UNICEF amongst others. International NGOs such as Médecins Sans Frontières and the International Federation of the Red Cross and Red Crescent, Save the Children amongst others are also critical in generating information on health for the various countries. The pieces of information generated often prove vital for national policy makers. Of relevance as well, is the role played by national health related NGOs. An important category of such NGOs are those that work on the concerns of persons living with HIV/AIDS. Such groups are vital in helping national authorities to generate the

relevant statistics as duly needed. Although SADC has relationships with and provides advice to AFRO and the WHO itself, their role in providing region-specific input to these organizations is still limited.

Targeting: the poor and cross-border diseases

SADC has many health related policy templates. However it is not always clear whether the institution itself has the wherewithal, both politically and in law, to compel action from member states in instances of non-compliance. A good example is the license with which some member states handle the payment of dues. There are many policy plans developed by the SADC Secretariat that make references to the needs of the poor and the most vulnerable. The departure point for this is actually Article 5 on the objectives of SADC that regards one of the mandates of the organization as using regional integration to respond to the social needs of the most vulnerable. In many policy documents such as the declaration on poverty eradication and sustainable development of 2008, attention is also placed on the concerns of the disadvantaged. However in the majority of the specific thematic and clustered declarations, policy plans and strategies limited effort is made to really disaggregate data that refers to the socially disadvantaged. Beyond the data that covers HIV/AIDS at the national and regional levels, the documents do not reflect a committed effort in dealing with economic stratification. Most of the numbers that are reported are for the most part presented in an aggregated manner. In certain instances cohorts are disaggregated in terms of age, gender and income brackets. But this tends to be exceptional as in the case of HIV/AIDS reporting where the age thresholds matter and are often cited.

The numerous policy documents that SADC has adopted in the area of health do not specifically target migrant cohorts. However attention has been placed in many documents on diseases that cross borders easily. This has been the case of HIV/AIDS and tuberculosis. In both cases, SADC is seriously afflicted as it is a region where truckers freely move across borders and also where miners from other countries have traditionally migrated to work in the mines of the richer countries such as Botswana, Namibia and especially South Africa. Yet even in the case of HIV/AIDS and tuberculosis the data that states report seldom discriminate and isolate the migrant cohort even if this group is often cited as a high-risk category. One of the reasons why it is hard to take account of truckers and migrants who are constantly on the move is the difficulties of tracking their laboratory information. Solutions suggested in this respect such as those contained in the 2012 TeleHealth draft report could provide a panacea but this will be hard to enforce as it may engender heated discussions and debates as to the legality of sharing such details across borders.

How does SADC support their Member States?

As illustrated in the figures 3 and 4, related to the Swaziland and Zambia cases, the international level (marked by WHO actions) and the local levels within the countries are very important in understanding how health data travels. There are many strategic framework documents that have been crafted to help SADC in coordinating the policies of its members in the area of health. In terms of capacity building also in the area of health SADC is often organizing seminars and training workshops that are geared at improving the quality of health data. The interaction of SADC with its member countries depends greatly on the mechanisms that are in place for data generation and compiling at the national level.

5. Discussion of findings

This paper sought to examine global-regional-national data flows with the use of two pairs of case studies focused on UNASUR (Bolivia and Paraguay) and SADC (Swaziland and Zambia). While these regions differ in terms of epidemiological profiles and economic levels, important lessons can be drawn on how to support the development of evidence-based pro-poor health policies in the countries.

First of all, although these bodies do not have databases to share information, they do generate important analyses and recommendations to support health decision-making in the regions. These regional bodies utilise data from the countries but the extent to which it is directly sourced from the countries is questionable. This may be due to lack of quality data from the countries, limited country capacity or poor coordination mechanisms in place to collect this data.

The literature shows that due to cost constraints and limited organisational capacity, very few developing countries can maintain accurate death, birth or disease registries. Data directly generated by health care institutions is more easily available, yet this may not be representative of the entire population, given that in these countries, a minority of the population (usually wealthier and better educated individuals living in urban areas) can access services (Larson and Mercer, 2004). This was reflected in the criticism of the SwazInfo database by WHO (WHO, 2010).

The importance of a stable cohort of health officials that have the relevant technical expertise has been widely documented (Sheirer, 2005; Balabanova et al., 2013) and these were found to be important weaknesses both in UNASUR and SADC. Specifically in SADC, the reliance on external consultants for the collection and analysis of data weakens the establishment of capacity within SADC not only to process these data but also to formulate decisions based on policy priorities as well as need. Given that there is evidence that officials are being trained already on data management, it seems the issue lies in small staff available for a growing workload.

On the other hand, there is no evidence that constant systems for data sharing exist between these levels with regional reports frequently citing UN agencies or other sources for information. This seems to reflect problems within the regional bodies themselves, exemplified by UNASUR itself lacking mechanisms to monitor the objectives proposed in their five year plan (Garron et al., 2013).

The WHO regional offices seem to have more developed mechanisms to communicate directly with member states. This may be the result of the short life-span of these regional bodies, or may be the result of the differing mandates of these offices, with the WHO offices firmly grounded as technical agencies that must liaise directly with ministries of health.

Both UNASUR and SADC already receive support by these WHO regional offices and are working towards improving their health information systems through these partnerships. In this sense, regional bodies must determine whether it is feasible to develop their own data collection mechanisms or if they can collaborate with already existing structures, such as those provided by the WHO. In the short term, this may result in the most convenient solution. Yet in the long-term, in order to avoid becoming dependent on these technical agencies, the regional bodies should evolve to develop their own reporting mechanisms to support their work. At the same time, UNASUR and SADC's expertise on their regions, as well as their proven interest in coordinating health issues, generates the potential for them to advise these international organizations on health issues in the future, establishing themselves as authorities in the field. While these bodies already interact with these global institutions, UNASUR and SADC's technical advisory role could be further enhanced to foster global level support for health activities conducted by their Member States. In order to do this, these regional organizations could begin by focusing on specific issue areas where they can generate expertise, such as data that supports their goal of promoting health as a human right (Amaya, Rollet & Kingah, 2015; Riggirozzi, 2014). An important step towards that would be collecting good quality data and harmonizing it at the regional level. Given that these regional bodies already provide technical assistance to their member countries, making the most of the experiences of member states that have developed more advanced health information systems should be the starting point in this area.

In terms of addressing populations, these two regional bodies are committed to addressing social determinants of health and eradicating poverty. However, they are limited by country data that in order to stratify by income level or affected populations requires more complex systems for data collection than what is available in low-income countries. This may partly be due to the differing capacity of Member States to report this type of data thus the decision to opt for cross-country comparable data. Lack of disaggregated data is problematic since it limits regional and country ability to identify and target key populations. In both regions there are important efforts to distinguish between rural and urban populations, as well as gender but this is not widespread across

all indicators. The importance of reaching disadvantaged populations has been recognised as an important measure of health policy success. Progress on the Millennium Development Goals has been considered to be uneven, not only between regions and countries but also between population groups within countries. For example, in 2011 only 53% of births in rural areas worldwide were attended by skilled health personnel, versus 84% in urban areas (United Nations, 2013). With the deadline for these goals fast approaching, post-2015 discussions have focused on how to build on these gains, through a sustainable development approach that seeks to reach those being left behind (UNDG, 2014).

6. Conclusions

Within an increasingly complex global health system, there is a greater role for regional organisations to support countries in the development of coherent health policies and as an interface between the national and global levels. UNASUR and SADC have the potential to provide adequate mechanisms for knowledge translation yet they are still lagging behind in their ability to collect and manage country information in coordination with their member states. Having greater access to quality and reliable data would greatly support their focus on addressing social determinants of health and reducing poverty in their countries. Making these data available and visible greatly enhances the ability of other stakeholders to demand that these issues be addressed at the regional and national levels.

The role of the regional organizations should thereby be seen as having both a vertical and horizontal dimension. Vertically, they can play a role in translating global goals (such as the SDGs) into regional and national targets and mobilising resources to reach these goals. They can also play a role in statistical harmonization, development and quality control and in data gathering and consolidation between the national and global level. Horizontally, they can contribute to better evidence-based policy coordination and to provide data and policy support for cross-border policy challenges (health situation of border populations, border-crossing diseases, health infrastructure in border regions, etc.).

Although the South American and Southern African regions are unique, these lessons are relevant for other nascent or developing regional bodies in supporting their work with their member countries around the use of information to support policy-development. Furthermore, reducing poverty within regions requires not only effective use of information but the political will of these bodies to address these issues. The opportunity afforded by the sustainable development goals (SDGs) and the rising influence of regional bodies must be seized towards addressing poverty and improving health should be seized.

References

- Abouzahr, C. & Boerma, T. (2005). Health information systems: the foundations of public health. *Bulletin of the World Health Organization*, 83, 578-583.
- AHO (2014a). Website, About. Available at:
<http://www.aho.afro.who.int/en/about-african-health-observatory>.
- AHO (2014b). Zambia: health information, research and knowledge. Available at:
http://www.aho.afro.who.int/profiles_information/index.php/Zambia:Health_information_research_evidence_and_knowledge
- Amaya, A.B., Rollet, V. Kingah, S.S (2015). What's in a word? The framing of health at the regional level: ASEAN, EU, SADC and UNASUR, *Global Social Policy* (forthcoming).
- Atkinson, S., Cohn, A., Ducci, M.E. and Gideon, J. (2005). Implementation of promotion and prevention activities in decentralized health systems: comparative case studies from Chile and Brazil. *Health Promotion International*, 20, 167-75.
- Balabanova, D., McKee, M. and Mills, A. (eds) (2011) *“Good Health at Low Cost” 25 years on. What makes a successful health system?* London: London School of Hygiene and Tropical Medicine.
- Caldwell, S.E.M and Mays, N. (2012). Studying policy implementation using a macro, meso and micro frame analysis: the case of the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) programme nationally and in North West London. *Health Research Policy and Systems*, 10(32).
- Cararro, L., Khan, S., Hunt, S. Rawle, G., Robinson, M., Antoninis, M. et al. (2003). *Monitoring the Millennium Development Goals: current weaknesses and possible improvements*. Glasgow: Oxford Policy Management, Department for International Development.
- Central Statistical Office Swaziland (2008). Swaziland Demographic and Health Survey of 2006 – 2007. Available at: <http://dhsprogram.com/pubs/pdf/FR202/FR202.pdf>.
- Central Statistics Office Swaziland website (2014). Central Statistics Office. Available at:
http://www.gov.sz/index.php?option=com_content&catid=78%253Aeconomic-planning-a-development&id=687%253Acentral-statistics-office&Itemid=258.

- Central Statistics Office Swaziland (2014). Demographic statistics division. Available at:
<http://www.swazistats.org.sz/index.php/demography>.
- Consejo de Salud Suramericano (2010). Constitución del Consejo de Salud Suramericano.
Available at: http://bioeticaediplomacia.org/wp-content/uploads/2013/10/actaconsejo_unasur_2009.pdf
- Data first (2013). Demographic and Health Survey Swaziland 2006 – 2007. Available at:
<https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/366/study-description>.
- Dawad, S. and Veenstra N. (2007). Comparative health systems research in a context of HIV/AIDS: lessons from a multi-country study in South Africa, Tanzania and Zambia. *Health Research Policy and Systems*, 5(13).
- Deve, T. (2012), Reclaiming SADC for Peoples' development, Inter Press Service (IPS), 9 September.
- DGEEC (2015). Marco legal. Available at: <http://www.dgeec.gov.py/institution/institucion.php>
- DHS program (2014). Website, datasets. Available at:
<http://dhsprogram.com/data/available-datasets.cfm>
- ECLAC (2014). Statistical Yearbook for Latin America and the Caribbean. Santiago de Chile: ECLAC.
- ENDSA (2008). Encuesta nacional de demografía y salud. Available at:
<http://bolivia.unfpa.org/content/encuesta-nacional-de-demograf%C3%ADa-y-salud-%E2%80%93-2008-endsa>
- Europa World Book (2008). SADC, in: *Europa World Book* (Routledge, London).
- EURO (2013). European health for all database. Available at: <http://www.euro.who.int/en/data-and-evidence/databases/european-health-for-all-database-hfa-db>
- European Union (2014). The history of the European Union.
Available at: http://europa.eu/about-eu/eu-history/index_en.htm
- Frenk, J., Gomez-Dantes, O. and Moon, S. (2014). From sovereignty to solidarity: a renewed concept for an era of complex interdependence. *The Lancet*, 383, 94-97.
- Garron, A., Faria, M., Giler, G. and Mattos, M. (2013). Analisis del proceso de elaboracion, implementacion y estado de situacion actual del plan quinquenal 2010-2015 del Consejo de Salud Suramericano. Available at:

http://www.academia.edu/7274054/AN%C3%81LISIS_DEL_PROCESO_DE_ELABORACI%C3%93N_IMPLEMENTACI%C3%93N_Y_dESTADO_DE_SITUACI%C3%93N_ACTUAL_DEL_PLAN_QUINQUENAL_2010_2015_DEL_CONSEJO_DE_SALUD_SURAMERICANO-UNASUR

Global Health Workforce Alliance (2011). Paraguay. Available at:

<http://www.who.int/workforcealliance/countries/pry/en/>

Green, A. et al. (2011). Health policy processes in maternal health: a comparison of Vietnam, India and China. *Health Policy*, 100, 167-73.

Grimshaw, J.M. et al. (2012). Knowledge translation of research findings. *Implementation Science*, 7, 50.

Guillen, M.C. (2011). Paraguay: Sistemas de salud en Sudamerica - Desafios hacia la integralidad y equidad. Available at: <http://www.mspbs.gov.py/planificacion/wp-content/uploads/2012/07/SSS-PARAGUAY-2011.pdf>

Hill, P. et al. (2011). The health systems funding platform: Is this where we thought we were going? *Globalization and Health*, 7.

HMN (2013). Health Metrics Network Framework. Available at:

http://www.who.int/entity/healthmetrics/documents/Rational_HIS_Capacity.pdf?ua=1

Inter Press Service (2013). People's Agenda for Alternative Regionalisms, West cold-shoulder rebuilding Southern Africa, Inter Press Service (IPS), 29 August.

ISAGS (2013a). Annual operating plan 2013. Rio: ISAGS.

ISAGS (2013b). Health surveillance in South America: epidemiological, sanitary and environmental.

Rio: ISAGS. Available at:

http://www.isags-unasur.org/it_biblioteca.php?lg=3&cat=2&bb=6

Isaksen (2003). SADC Restructuring and the Future, in: *Monitoring Regional Integration in Southern Africa Yearbook*, Volume 3, 201-219 (D. Hansohm, W. Breytenbach and T. Hartzenberg eds., Namibian Economic Policy Research Unit).

Jere, A. (2009). Southern African Development Community. Gaborone: SADC.

K4Health Report (2012). Swaziland HIV Incidence Measurement Survey. First Findings Report.

Available at: https://www.k4health.org/sites/default/files/SHIMS_Report.pdf.

- Kapiriri, L., Norheim, O.F. and Martin, D.K. (2006). Priority setting at the micro-, meso- and macro-levels in Canada, Norway and Uganda. *Health Policy*, 82, 78-94.
- Kuruvilla, S. et al. (2014). Success factors for reducing maternal and child mortality. *Bulletin of the World Health Organization*, 92, 533-44.
- Kwankam, Y. S. (2011). eHealth and hospitals: Contemporary issues, challenges and opportunities. *Africa Health*, 33(35).
- La Nacion (2013). Argentina y Paraguay firmaron acuerdo para combatir el dengue. Available at: <http://www.lanacion.com.py/articulo/148965--argentina-y-paraguay-firmaron-acuerdo-para-combatir-el-dengue.html>
- Larson, C. and Mercer, A. (2004). Global health indicators: an overview. *Canadian Medical Association Journal*, 10, 1199-1200.
- Levine, R., What Works Working Group and Kinder, M. (eds) (2004). *Millions Saved: proven success in global health*. Washington, D.C.: Center for Global Development.
- Ministry of Health, Zambia (2010). National health strategic plan 2011-2015. Available at: <http://www.moh.gov.zm/docs/nhsp.pdf>
- Ministry of Health, Zambia (2015). Mission and Goal for the Ministry of Health. Available at: <http://www.moh.gov.zm/about-us/vision/>
- MSPyBS (2012). Análisis de situación de salud de las 18 regiones sanitarias de Paraguay: Marco teórico y metodología. Asunción: MSPyBS.
- Noel, A. (2006). The new global politics of poverty. *Global Social Policy*, 6, 304-333.
- Ottersen, O.P. et al. (2014). The Political Origins of Health Inequity: Prospects for Change”, *The Lancet*, 383, 630-667.
- PAHO (2013). PAHO health information platform. Available at: http://www.paho.org/hq/index.php?option=com_content&view=article&id=5191&Itemid=1864&lang=en
- PAHO (2015). PAHO Health Information Platform (PHIP). Available at: http://www.paho.org/hq/index.php?option=com_content&view=article&id=5191%3Ap

[aho-health-information-platform-hip&catid=511%3Ahealth-information-analysis&Itemid=1864&lang=pt](#)

Plochg, T. and Klazinga, N. S. (2002). Community-based integrated care: myth or must? *International Journal for Quality in Health Care*, 14, 91-101.

Riggirozzi, P. (2014). Regionalism through social policy: collective action and health diplomacy in South America. *Economy and Society*, 43, 432-454.

SADC (1999). SADC Health Protocol, Maputo, 18 August. Gaborone: SADC.

SADC (2001). Consolidated Treaty of the Southern African Development Community as amended, 17 August.

SADC RISDP (2003). Regional Indicative Strategic Development Plan (2003). Gaborone: SADC.

SADC (2003). Regional Indicative Strategic Development Plan. Gaborone: SADC.

SADC. (2006). SADC Pharmaceutical Business Plan (2007-2013). Gaborone: SADC.

SADC (2007). Framework on health policy. Gaborone: SADC.

SADC (2010). Harmonized surveillance framework for HIV and AIDS, Tuberculosis and Malaria in the SADC region. Gaborone: SADC.

SADC (2011). *Statistics Yearbook*. Available at:

<http://www.sadc.int/information-services/sadc-statistics/sadc-statiyearbook/>.

SADC (2011). Desk Assessment of the Regional Indicative Strategic Development Plan 2005-2010, Final Report Approved by SADC Council (November). Gaborone: SADC.

SADC Statistics Strategy (2012), Regional Strategy for the Development of Statistics, 23 July 2012. Available at:

http://www.sadc.int/files/1513/6800/4894/SADC_RSDS_2013-18_-_Final_Version_-_23_July_2012_-_1.pdf.

SADC (2012), Draft proposed Telehealth system for HIV and AIDS, TB and malaria surveillance and information sharing, Gaborone: SADC.

SADC (2012a). Sexual and reproductive health business plan for the SADC region 2011-2015. Gaborone: SADC.

- SADC (2012b). SADC Resource mobilization strategy, as approved by the SADC Council of Ministers (August 2012). Gaborone: SADC.
- SADC (2013). SADC Selected Indicators 2013. Gaborone: SADC.
- SELA (2010). Experiencias de cooperación en el sector de la salud en América Latina y el Caribe. Balance crítico y propuestas de acción de alcance regional. Caracas: SELA.
- Sheirer, M. A. (2005). Is sustainability possible? A review and commentary on empirical studies of program sustainability. *American Journal of Evaluation*, 26, 320-47.
- SNIS (2000). Bolivia encuesta de multiples indicadores por conglomerados 2000. Informe final. La Paz: Ministerio de Salud.
- SNIS (2014). Instituto nacional de estadística de Bolivia. Available at:
<http://www.ine.gob.bo/indice/indice.aspx?d1=0401&d2=6>
- Spicer, N. et al. (2010). National and subnational HIV/AIDS coordination: are global health initiatives closing the gap between intent and practice? *Globalization and Health*, 6.
- Taskforce on Health Systems Research (2004). Informed choices for attaining the Millennium Development Goals. *The Lancet*, 364, 997-1003.
- UNAIDS (2011). *Bolivia: Informe nacional de progresos en respuesta al VIH/SIDA*. La Paz: Ministerio de Salud y Deportes.
- UNAIDS (2015). 2014 Progress reports submitted by countries. Available at:
<http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries>
- UNASUR (2009). *UNASUR Health 2010-2015 Five year plan*. Quito: UNASUR.
- UNASUR (2013). 2nd Ordinary Meeting of RINS/UNASUR and Seminar - Workshop on the role of NIPH in research and control of vector transmitted diseases. Quito: UNASUR.
- UNDG (2014). Open Working Group proposal for Sustainable Development Goals. Available at:
<http://sustainabledevelopment.un.org/focussdgs.html>
- UNICEF (2010). UNICEF annual report for Paraguay. Available at:
http://www.unicef.org/about/annualreport/files/Paraguay_COAR_2010.pdf

- UNICEF (2015). UNICEF Data: Monitoring the Situation of Children and Women. Available at:
<http://data.unicef.org/>
- United Nations (2013). *A regional perspective on the post-2015 United Nations development agenda*.
New York, NY: United Nations.
- USAID (2008). Health systems profile: Paraguay. Available at:
http://www.paho.org/hq/dmdocuments/2010/Health_System_Profile-Paraguay_2008.pdf
- Van Schalkwyk, G. (2003). SADC Restructuring : Something Old, Something New, Something Borrowed, Something Blue, in *Monitoring Regional Integration in Southern Africa Yearbook*, Volume 3, 187-200 (D. Hansohm, W. Breytenbach and T. Hartzenberg eds., Namibian Economic Policy Research Unit).
- World Bank (2010). Integrated Safeguard Datasheet. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/12/07/000003596_20101209121321/Rendered/PDF/Integrated0Saf1et010Appraisal0Stage.pdf
- World Bank (2013). Zambia overview. Available at:
<http://www.worldbank.org/en/country/zambia/overview>
- World Bank (2014). Databank. World Development Indicators. Health. Available at:
<http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators#>.
- World Bank (2014). Swaziland, overview. Available at:
<http://www.worldbank.org/en/country/swaziland/overview#3>.
- World Health Organization (2007). Assessment of the health information system in Zambia. Available at:
http://www.who.int/healthmetrics/library/countries/hmn_zmb_hisassessment.pdf
- World Health Organization (2008). Health information systems: Toolkit on monitoring health systems strengthening. Available at:
http://www.who.int/healthinfo/statistics/toolkit_hss/EN_PDF_Toolkit_HSS_InformationSystems.pdf
- World Health Organization (2010). African Health Observatory, Swaziland Country Report. Available at:
http://www.aho.afro.who.int/profiles_information/index.php/Main_Page >> Swaziland >> complete report.

World Health Organization (2010a). Regional Office for Africa: Swaziland Factsheet of Health Statistics. Available at: http://www.aho.afro.who.int/profiles_information/images/f/fc/Swaziland-Statistical_Factsheet.pdf?ua=1.

World Health Organization (2010b). Regional Office for Africa: Swaziland Health Statistics Overview. Available at: http://www.aho.afro.who.int/profiles_information/images/1/16/Swaziland-Statistical_Overview.pdf?ua=1

World Health Organization (2014). Country Cooperation Strategy Swaziland. Available at: http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_swz_en.pdf

World Health Organization (2014a). Zambia health profile. Available at: <http://www.who.int/gho/countries/zmb.pdf>

World Health Organization (2014b). Zambia statistics. Available at: <http://www.who.int/countries/zmb/en/>

World Health Organization (2014c). Global health data repository: Bolivia. Available at: <http://apps.who.int/gho/data/?theme=country&vid=4900>

World Health Organization (2014d). Global Health Observatory. Available at: <http://www.who.int/gho/en/>

ZDHS (2014). Zambia Demographic and Health Survey 2013-2014: Preliminary report. Available at: <http://www.zamstats.gov.zm/report/Demo/ZDHS%202013-14%20Preliminary%20Report.pdf>