The development of the South African eHealth Strategy assessed against the recommendations of the WHO/ITU eHealth Strategy Toolkit

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Abstract

Purpose: The purpose of this review is to establish the extent to which processes followed in the development of the South African eHealth Strategy conform to the recommendations provided in the National eHealth Strategy Toolkit published by the World Health Organisation (WHO) and the International Telecommunication Union (ITU) in 2012.

Method: For each of the steps recommended by the Toolkit, the processes followed in the development of the South African eHealth Strategy are rated against the recommended processes.

Results: Overall, the processes followed in the development of the South African eHealth Strategy conform well to the recommended processes. Weaknesses were found with respect to management and resourcing of the development process and the engagement of multisectoral stakeholders.

Keywords: eHealth, eHealth strategy, eHealth strategy toolkit, eHealth vision, eHealth planning, health information systems

Introduction

The word "strategy" was originally used to describe the art of planning and directing high-level military operations and movements in a war or battle. Simply put, a strategy is nothing more than a high-level plan to achieve one or more goals within the context of given constraints. [1] The word "strategy" is now applied in all spheres of life and has come to be broadly used in two ways: to describe a high level plan or to describe a hybrid that is a high level plan combined with a framework for implementation.

In the development of country eHealth strategies, the word is used in both ways. For example the Scottish eHealth Strategy (2011-2017) is a high level document that focuses on "the benefits and outcomes experienced by the people of Scotland flowing from eHealth enabled service re-design and quality improvements".[2] The Australian eHealth Strategy published in 2008 was a much longer document, including a detailed definition of the proposed eHealth architecture model. [3]

The terms "eHealth blueprint", "eHealth strategic framework" or "eHealth strategic plan" tend to be used when the plan goes into some detail regarding the realization of the strategy, e.g. Ontario's eHealth Blueprint. [4]

The National eHealth Strategy Toolkit published in 2012 by the World Health Organisation (WHO) and the International Telecommunication Union (ITU) [5] seeks to provide a practical guide for governments, their relevant ministries and departments for the development of a national eHealth vision, action plan and monitoring framework. Although it is called an "eHealth Strategy Toolkit", the Toolkit does not guide its users towards the creation of a separate document called an "eHealth strategy".

The Toolkit is designed in three parts, with Parts 2 and 3 building progressively on the output of Part 1:

Part 1: Establishing a national eHealth vision.
Part 2. Developing a national eHealth action plan.
Part 3. Developing a plan for monitoring and evaluation of implementation of the action plan.

The use of the word "vision" in the Toolkit may be misleading to those intending to apply the guidelines. Textbook methodologies for strategy development include the development of a mission statement and a vision statement which should describe in a few words what the organisation is doing and why. According to the Toolkit, the national eHealth vision to be established through Part 1 is much broader than a vision statement and should answer the following questions:

- Why does the country need a national approach to eHealth?
- What will a national eHealth plan achieve?
- What are the components required in order to achieve the desired outcomes?

These are the answers that countries seek to address when they set about developing a high-level plan or strategy for eHealth. For the purposes of this review, it will therefore be assumed that Part 1 provides guidelines for the development of a national eHealth strategy or high-level plan, which the Toolkit has called a "vision". Part 2, an action plan describing "the comprehensive set of activities, required resources and strategic phases for implementing the national eHealth vision", is equivalent to a plan for the realization of a national eHealth strategy.

This paper examines the processes followed and the outputs produced in the development of the South African eHealth Strategy 2012 – 2016 [6] in order to determine the extent to which these conform to the guidelines provided in Part 1 of the Toolkit.

Part 1 provides guidance on developing a national eHealth strategy that responds to health and development goals. The strategy should be developed through an iterative approach to ensure that it is grounded in the current context. Nine steps are recommended:

1. Managing the process

The process should have a clear plan with well-defined governance mechanisms for consultation, communication and approvals. In addition, a core team with sufficient technical knowledge, analytical ability and communication skills should be engaged.

2. Engaging with stakeholders

The involvement of a range of multisectoral stakeholders should be ensured in order to gain perspectives on what eHealth is expected to deliver in the country. Engagement with stakeholders should be continued throughout the entire strategy development process.

3. Establishing strategic context

The strategic context must be established early on in order to identify the goals and challenges of the health system, especially those that eHealth can help to address. Broader social and development goals should also be taken into account.

4. Learning from trends and experience

It is recommended that time is invested in researching the eHealth successes and failures of other countries in order to understand trends and best practice. In addition, research must be done to identify available technologies, potential outcomes that can be achieved and the challenges and risks that should be taken into account in planning.

5. Drafting initial strategy

Once the strategic context has been defined and trends and experience have been reviewed, an "unconstrained" strategy should be drafted expressing an ideal national eHealth environment. This will include a comprehensive view of opportunities that can be pursued in future and will give an indication of the degree of change that will be required in order to develop the eHealth environment.

6. Identifying required components

Building blocks that will be required in order to deliver on the goals of the strategy must be identified. The Toolkit includes seven components that should be addressed.

7. Gathering information on eHealth environment

Information must be collected to determine to what extent the building blocks referred to above already exist, can be re-used or expanded.

8. Assessing opportunities and gaps

The gaps between what is required and what already exists must be described so that opportunities for re-use or sharing can be identified and the gaps can be addressed. Risks and barriers should also be identified at this stage.

9. Refining strategy and develop recommendations

The initial strategy is refined based on the outputs of steps 6, 7 and 8. A set of recommendations is developed which is used to develop the action plan (covered in Part 2). This stage also includes endorsement of the strategy and its communication to the broader stakeholder community.

When the Toolkit was published, the process for development of the eHealth Strategy for South Africa was already at the stage where endorsement was being sought. The purpose of this review is to establish to what extent the processes followed in the development of the South African eHealth Strategy conform to the recommendations provided in the Toolkit.

Materials and Methods

This review will go through the nine steps recommended by the Toolkit and compare the activities and outputs recommended in these to the processes followed in the development of the South African eHealth Strategy. The author, as a member of the core team that developed the strategy, has rated elements within each recommended step from 0 to 2, where 0 indicates "Was not done", 1 indicates "Was partially done" and 2 indicates "Was done". Explanatory comments are added for each element and, where applicable, the relevant sections of the strategy document are referred to.

Results

Step 1: Managing the process.

Elements	Rating
High-level health sector leadership and support	1 The process benefited from the ongoing support of the chairperson of the National Health Information System South Africa (NHISSA) Committee who also kept the leadership apprised of the process. However, as NHISSA only meets quarterly there were extended periods without engagement.
Appropriate governance structure and mechanisms	1 There was no formalized governance structure and mechanisms put in place specifically for this process. Regular progress reports were made to the NHISSA Committee. The process benefited from input from eHealth subject matter experts.
Multi-disciplinary project team with requisite skills and expertise	1 The development of the strategy was not project-based but had access to a small but capable core team with health system and public health expertise as well as a broad knowledge of eHealth and ICTs.
Agreed timeline and resources for completing the work	0 There was no project plan and therefore no agreed timelines for the work. No budget or other resources were assigned for the process.

Step 2: Engaging with stakeholders

Elements	Rating
Clarify the role of government in national eHealth development	2 The development of the strategy was directed by government. As this was the country's first eHealth strategy, the decision was made to limit the scope to the public-sector in order establish a strong national framework on which to build more inclusive strategies in future.

Identify stake-holder groups that need to be involved	1 The development of the strategy did not include a broad stakeholder group. However, the NHISSA Committee includes relevant stake-holders from within the public-sector and input into the strategy was so-licited from them as well as from managers within the national De-partment of Health.
Develop ap-proach to manag-ing these groups	0 No specific approach was devel-oped.
Define and com-municate points of consultation	0 No specific consultation points were defined.

Step 3: Establishing strategic context

Elements	Rating
Research popu-lation health and demographics	1 This was done to some extent and is reflected in Section 5: eHealth's contribution to NDoH's strategic aims.
Describe the health system	1 This was done to some extent and touched on throughout the docu-ment.
Review national health strategy, goals and priori-ties	2 A review of the national health strategy as expressed in the Nego-tiated Service Delivery Agreement 2010-2014 (NSDA) [7] and the 10 Point Plan for 2009-2014 [8] was done.
Identify economic and social devel-opments goals relevant to health	0 Although the document takes into account the health context in South Africa, it does not identify relevant economic and social developments.
Identify work al-ready done on strategies for eHealth, ICT and HIS	2 The process took into account pre-vious attempts to develop an eHealth strategy and also the Na-tional Healthcare Management In-formation System (NHC/MIS) drawn up in 1994.
Identify the stra-tegic goals and challenges most directly affected by the eHealth vision	2 Each service delivery intervention identified in the Negotiated Service Delivery Agreement 2010-2014 (NSDA) and the 10 Point Plan for 2009-2014 was assessed in order to identify opportunities where eHealth could enable and support the intervention.
Describe how a national eHealth environment can	2 Opportunities where eHealth could

support these goals and chal-lenges	enable and support service delivery interventions were identified and described.

Step 4: Learning from trends and experience

Elements	Rating
Research na-tional eHealth visions, strate-gies and pro-grammes	2 Research was done in order to learn about eHealth strategies and pro-grammes in other countries.
Research inter-national eHealth trends, best practices and outcomes	2 Research was done in order to learn about eHealth trends, best practices and outcomes in other countries.

Step 5: Drafting an initial vision

Elements	Rating
Agree time hori-zon for the eHealth strategy	2 Target delivery dates were included, aligned with the NSDA and 10 Point Plan.
Define desired eHealth out-comes based on health goals and challenges	2 The desired eHealth outcomes were defined within the country context.
Describe ra-tionale for each outcome sought; link outcomes to the strategic context	2 The desired eHealth outcomes were linked to the health system goals.
Develop an initial vision statement	2 An initial vision statement, linked to the health vision, is articulated. It is "eHealth: enabling a long and healthy life for all South Africans". The vision statement of the national Department of Health as expressed in the NSDA is "A long and healthy life for all South Africans".
Describe what delivering the national eHealth vision will mean for the stake-holders	1 This is done to some extent and re-flected in Section 5.3: Leveraging eHealth to support NDoH's strategic aims. Specific initiatives are referred to, e.g. the proposed National Health Insurance Scheme.
Develop one or more scenarios that put eHealth vision in practice	2 Opportunities where eHealth could enable and support service delivery interventions of the NSDA and the 10 Point Plan were identified and described.

Step 6: Identify required components

Elements	Rating
Leadership and governance	2 Identified within Strategic Priority 1: Strategy and Leadership. Identified within Strategic Priority 4: Governance and Regulation.
Strategy and investment	2 Identified within Strategic Priority 1: Strategy and Leadership. Identified within Strategic Priority 4: Investment, Affordability and Sustainability.
Services and applications	2 Identified within Strategic Priority 8: eHealth Foundations. Identified within Strategic Priority 9: Applications and Tools to support Healthcare Delivery.
Infrastructure	2 Identified within Strategic Priority 8: eHealth Foundations.
Standards and interoperability	2 Identified within Strategic Priority 3: Standards and Interoperability.
Legislation, policy and compliance	2 Identified within Strategic Priority 4: Governance and Regulation.
Workforce	2 Identified within Strategic Priority 7: Capacity and Workforce.

Step 7: Gather information on the eHealth environment

Elements	Rating
Leadership and governance	2 Information gathered and presented in Section 4.1: Structural, Policy and Legislative Context. Identified within Strategic Priority 1: Strategy and Leadership. Identified within Strategic Priority 4: Governance and Regulation.
Strategy and investment	2 Information gathered and presented in Section 4.2: The requirement for a National eHealth Strategy and in Section 4.3: eHealth funding and expenditure. Identified within Strategic Priority 1: Strategy and Leadership. Identified within Strategic Priority 4: Investment, Affordability and Sustainability.
Services and applications	2 Information gathered and presented in Section 4.6: Telemedicine, Section 4.7: mHealth, Section 4.14: Notable current initiatives in eHealth. Identified within Strategic Priority 8: eHealth Foundations. Identified within Strategic Priority 9: Applications and Tools to support Healthcare Delivery.
Infrastructure	2 Information gathered and presented in Section 4.4: eHealth Maturity, Section 4.5: NHC/MIS and Section 4.3: eHealth funding and expenditure. Identified within Strategic Priority 8: eHealth Foundations.
Standards and interoperability	2 Information gathered and presented in Section 4.8: eHealth Standards. Identified within Strategic Priority 3: Standards and Interoperability.
Legislation, policy and compliance	2 Information gathered and presented in Section 4.9: Policies and Regulations affecting eHealth. Identified within Strategic Priority 4: Governance and Regulation.
Workforce	2 Information gathered and presented in Section 4.11: eHealth Capacity Building, Section 4.10: eHealth Associations and Conferences. Identified within Strategic Priority 7: Capacity and Workforce.

Step 8: Assess opportunities and gaps

Elements	Rating
Leadership and governance	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 1: Strategy and Leadership. Activities to leverage opportunities and overcome gaps identified within Strategic Priority 4: Governance and Regulation.
Strategy and investment	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 1: Strategy and Leadership. Activities to leverage opportunities and overcome gaps identified within Strategic Priority 4: Investment, Affordability and Sustainability.
Services and applications	2 Activities to leverage opportunities and overcome gaps identified within

	Strategic Priority 8: eHealth Foundations. Activities to leverage opportunities and overcome gaps identified within Strategic Priority 9: Applications and Tools to support Healthcare Delivery.
Infrastructure	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 8: eHealth Foundations.
Standards and interoperability	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 3: Standards and Interoperability.
Legislation, policy and compliance	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 4: Governance and Regulation.
Workforce	2 Activities to leverage opportunities and overcome gaps identified within Strategic Priority 7: Capacity and Workforce.

Step 9: Refine the strategy and develop recommendations

Elements	Rating
Adjust scope and focus	2 Opportunities identified for eHealth to support and enable healthcare service delivery interventions were sorted into three groups of objectives: 1. Build on what exists 2. New and extended work requiring significant procurement and implementation 3. Work for which further planning is required
Refine initial vision	2 The initial draft strategy was refined in terms of what was achievable in the short, medium and long term. In addition, ten priority areas were identified in order to facilitate the coordination of effort and investment.
Develop recommendations	2 The recommendations are grouped within the ten priority areas and key activities with clear outputs and target dates are identified.
Gain endorse-	2

ment and publish eHealth strategy	The strategy was presented to the National Health Council which, chaired by the Minister of Health, consists of the leadership of the National Department of Health. The strategy was signed by the Minister of Health and the Director General of the Department of Health.

The scores for each step were added and the comparison between the recommendation and the processes followed by the South African eHealth Strategy team is graphically displayed in Figure 1.
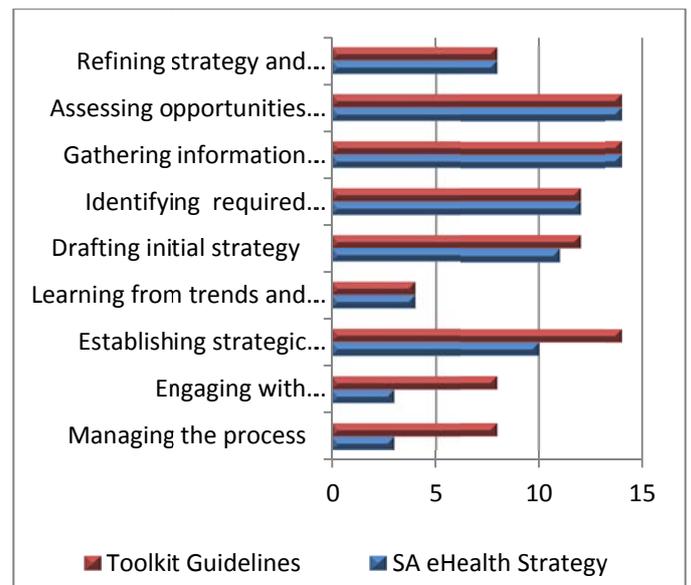

Figure 1. Comparison of South African processes and Toolkit recommendations

Discussion

Managing the process

Low compliance (37.5%) with the Toolkit recommendations was recorded here. Although a competent core team worked on development of the eHealth strategy, there was no formal plan or resource allocation for the process. Governance was limited to the oversight role played by the National Health Information System South Africa (NHISSA) Committee. The NHISSA Committee consists of senior managers in the National Department of Health responsible for health information, monitoring and evaluation, epidemiology, and research; senior managers responsible for similar functions in the provinces, and invited representatives from partners and other organisations. The NHISSA Committee meets quarterly and reports to the Director-General of Health.

Engaging with stakeholders

Low compliance (37.5%) with the Toolkit recommendations was also recorded with respect to stakeholder engagement. A range of multisectoral stakeholders was not involved as the decision was taken to focus the scope of this first national eHealth strategy only on the public-sector. 83% of the population has no medical insurance [9] and is dependent on the public-sector for health services. Establishing the necessary eHealth foundations in the public-sector was therefore seen as a

priority. Although input from multisectoral stakeholders could have been beneficial to development of the strategy, previous efforts to involve a broader group in strategic planning for eHealth had not resulted in much success. This could due to the lack of a dedicated, well-resourced structure to manage the process.

Establishing strategic context

Although compliance with the Toolkit recommendations was fairly good (71%), the South African eHealth strategy does not identify relevant economic and social developments or include these in the strategic context. The goals and challenges of the health system were taken into account, although these could have been addressed in more depth.

Learning from trends and experience

Compliance was 100%. Research was done in order to learn about eHealth strategies, programmes, trends, best practices and outcomes in other countries. The ten strategic priorities were informed by lessons learned as well as the challenges and risks that had been identified in this research.

Drafting initial strategy

Compliance was 92%. An "unconstrained" strategy was drafted, expressing an ideal national eHealth environment within the given constraints. The initial draft pragmatically included three levels of opportunities, expressed as objectives: Building on what exists, new or extended work, and work that could be planned for in the future. The strategy articulated the changes that would be required to develop the South African eHealth environment from the current status quo. Due to limited stakeholder involvement, it did not adequately describe what delivering the national eHealth vision means for stakeholders.

Identifying required components

Compliance was 100% and building blocks essential for the delivery of the goals of the strategy were clearly identified. All seven components were addressed.

Gathering information on eHealth environment

Although compliance was 100%, only high-level information was collected to determine to what extent the building blocks referred to above already existed, could be re-used or expanded. This is because the processes described in this step of the Toolkit are identified in the South African Strategy as part of developing the necessary components for an Enterprise Architecture for health. This is one of the key future activities listed under the Strategic Priority 1: Strategy and Leadership.

Assessing opportunities and gaps

Although compliance was 100%, opportunities and gaps were only identified on a high level. As stated above, the processes described in this step are identified as part of developing the necessary components for an Enterprise Architecture for health. This is one of the key future activities listed under the Strategic Priority 1: Strategy and Leadership.

Refining strategy and develop recommendations

Compliance was 100%. The initial strategy was refined based on the outputs of steps 6, 7 and 8. The set of recommendations is described in Section 7: eHealth Roadmap and delivery on the eHealth Strategy. Although a full score has been given for this step, the Roadmap includes a comprehensive list of key activities with specific outputs and target dates. While it is necessary to fix a broad time horizon for a strategy, this level of detailed planning would be better placed in the eHealth Action Plan that should now be developed, using the strategy as input. The strategy was fully endorsed by the Minister and the leadership of the Department of Health and published on the Departmental website for public consumption.

Conclusion

It is important to resolve the semantics around eHealth strategies. Is a strategy a vision or a simply another word for a high-level plan that includes a mission and a vision statement? The author makes the assumption that the eHealth Vision referred to by the Toolkit is essentially the same as a strategy or high-level plan for national eHealth.

While the processes followed in the development of the South African eHealth Strategy generally conformed well to the guidelines provided in the Toolkit, there were weaknesses noted especially in the way the work was managed and the limited inclusion of multisectoral stakeholders.

Although a 100% score was assigned for data gathering and analysis of information in order to provide the context for the strategy, the depth, relevance and quality of this work cannot be assessed in a review of this nature. This also applies to the research into global experiences, trends and best practices.

The South African eHealth Strategy contains a Roadmap section in which key future activities are outlined and outcomes are given target dates. Given the definition of a strategy as a high-level plan, this section is better placed in the eHealth Action Plan and not in the strategy document. The South African eHealth Strategy 2012 – 2016 can therefore be regarded as a hybrid that is both a high-level plan and a partial implementation plan. The fact that the completion dates for many of the activities have passed before the activities have been initiated underlines the need to keep this level of detail out of a country strategy.

Some of the processes described in the Toolkit are part of developing the necessary components for an Enterprise Architecture for health. This work could substantially delay progress in development of the strategy and it is recommended that a high level approach is followed with the Enterprise Architecture work featuring as a high priority in the Action Plan.

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