Come join the discussion! Elena Beratarbide will respond to questions in the **discussion area of the COBIT (4.1 and earlier)—Use It Effectively** topic beginning 22 October 2012.

COBIT Maturity Assessment and Continual e-Health Governance Improvement at NHS Fife

By Elena Beratarbide, CISA, Pablo Borges and Donald Wilson

The NHS is the National Health Service trust that provides public health care services across the UK. NHS Fife[1] is the corresponding public health care provider within the Fife region in Scotland, UK, covering a range of services from primary care to acute services, involving community hospitals across the region.

NHS Fife began working with COBIT® in 2007, led by the need to ensure that its e-health services were aligned with NHS's national and local strategies, along with internal pressures to improve security, audit outcomes and compliance with recognized standards.

Until 2007, NHS Fife had been focused on Information Technology Infrastructure Library (ITIL) as a best practice standard for IT service management. ITIL v2, the version available at the time, lacked the overall vision of a continual improvement process—something that COBIT provided. This vision incorporated all relevant processes from the service strategy to operations, establishing the improvement cycle in terms of level of maturity, how to progress within the improvement path for processes and activities, and how to measure progress.

NHS Fife understood that COBIT provides a higher-level framework that allows for working with a process vision, encompassing some IT governance processes not covered by ITIL, such as strategic planning, risk management, quality management and internal control. The decision to integrate the organization's previous efforts with ITIL with the COBIT framework allowed for a more efficient management of resources, particularly in a climate of greater-than-ever efficiency-savings pressures and increasing clinical and non-clinical e-health demand.

NHS Fife supported the implementation of COBIT with the **Meycor COBIT® Suite**, which was particularly helpful for establishing a baseline, developing improvement plans, selecting metrics and tracking the improvement cycles designed for each targeted process.

In 2008, the NHS Fife initiative evolved into an e-health COBIT demonstrator project, which aimed to show results after applying COBIT to three different NHS boards in Scotland and the UK, and to present conclusions and recommendations to the e-health directorate of the Scottish government for consideration across other NHS boards.

To get support from the Scottish government (e-Health Programme), NHS Fife needed to demonstrate results achieved from the earliest stages. In 2005, NHS Fife started restructuring the IT department based on ITIL recommendations, which included implementing clear service delivery, service support functions and managers for key ITIL processes, while maintaining infrastructure support teams. In 2006, a new IT change support manager, who already worked with COBIT, was appointed and introduced the framework into NHS Fife. The quick results related to IT change management convinced the head of the department to extend the improvement model to other key processes, and within a year, a further two NHS boards joined the project, which aimed to demonstrate results and to develop a set of recommendations for other NHS boards facing the same challenges and considering the adoption of e-health governance best practices.

From the NHS Fife perspective, the targets for a COBIT implementation were to:

- Understand the priorities toward establishing a mature process for e-health to engage and align with the NHS Fife strategy
- Reduce risk and improve security
- Improve internal and external audit outcomes
- Establish a continual improvement model of working that is sustainable, and demonstrate results
- Achieve COBIT level 3 maturity for all key processes within a year

The implementation of COBIT was divided into two phases. Phase one involved training the key process owners from the e-health team on IT governance, COBIT® 4.0 and Meycor COBIT tools. Phase two involved:
- Raising awareness of IT governance across the e-health team
- Further training on the COBIT framework and Meycor COBIT tools
- Identifying all relevant process owners and responsibilities (**figure 1**)
- Reviewing in-depth the existing processes, producing a baseline of the current situation
- Selecting pilot processes according to the priorities for the organization. This selection was based on a heat map of critical processes from the NHS Fife priorities perspective (**figure 2**), including the expected value of improving the process for

Figure 1—Example of Adapted RACI Chart

| COBIT PROCESS	CONTROL OBJECTIVE	COBIT ACTIVITIES	Support Manager	Manager	CCR Manager	Services TL	Support TL	Architect	TL
DS8	1.2	Create classification (severity and impact) and escalation procedures (functional and hierarchical)	A/R	C		C	C		R
DS8	2.1/2.2	Detect and record incidents/service requests/information requests	A	C					R
DS8	2.3	Classify, investigate and diagnose queries	A	C		R	C	C	R
DS8	3.1/3.2 4.1/4.2	Resolve, recover and close incidents	A	I		R	C	R	R
DS8	2.3	Inform users (e.g., status updates)	A	I			C		R
DS8	1.3/5.1	Produce management reporting	A/R	I	I		I	I	R

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Figure 2—Value Analysis: Heat Map Based on Aggregated IT and Business Goals Importance

| Contribution to IT Goals (Weighted value)	Value contribution to IT Goals (Weighted value, max importance of IT Goal contributed)		
High contribution (values 31-50)		ME1 (32) ME4 (32)	PO6 (48) DS5 (42) AI7 (36) DS12 (36) AI6 (34)
Medium contribution (values 16-30)		PO10 (24) DS1 (24) DS2 (24) PO5 (20) PO8 (20) DS6 (20) PO4 (18) AI4 (18) DS11 (17) PO1 (16) PO9 (16) DS10 (16)	DS4 (30) ME2 (30) DS13 (28) DS8 (22) DS3 (20)
Low contribution (values 0-15)	AI3 (8) AI2 (6) PO3 (4)	AI5 (14) DS7 (14) PO2 (13) AI1 (12) PO7 (10) DS9 (10) ME3 (8)	
	Medium Importance Goals (2-3-4)	High Importance Goals (1)	Very High Importance Goals (0)
		Maximum Importance of IT Goals contributed (MAX)	

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NHS Fife, audit recommendations, risk and the results of the assessment baseline (**figures 3** and **4**).

- Developing improvement plans. Each process owner was in charge of producing improvement plans, with further assistance provided by a COBIT expert. The latter was only required during the initial training—until the method was established in the team.

- Applying an IT department user-satisfaction survey to demonstrate changes in perceptions through a series of improvement cycles
- Carrying out an assessment after three, six and 12 months, which involved measuring the achieved level of maturity and putting on a series of lessons-learned workshops with key stakeholders and process owners
- Disseminating the results

Figure 3—Maturity Assessment (2008 Baseline)
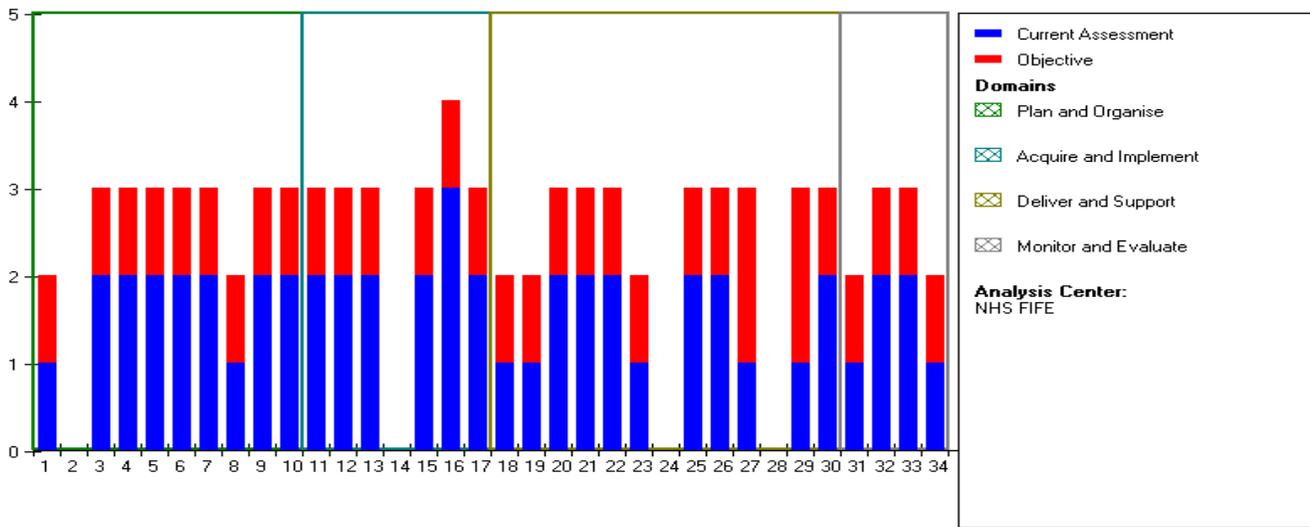
Source: NHS Fife. Reprinted with permission.

Figure 4—Control Objectives Compliance (2008)
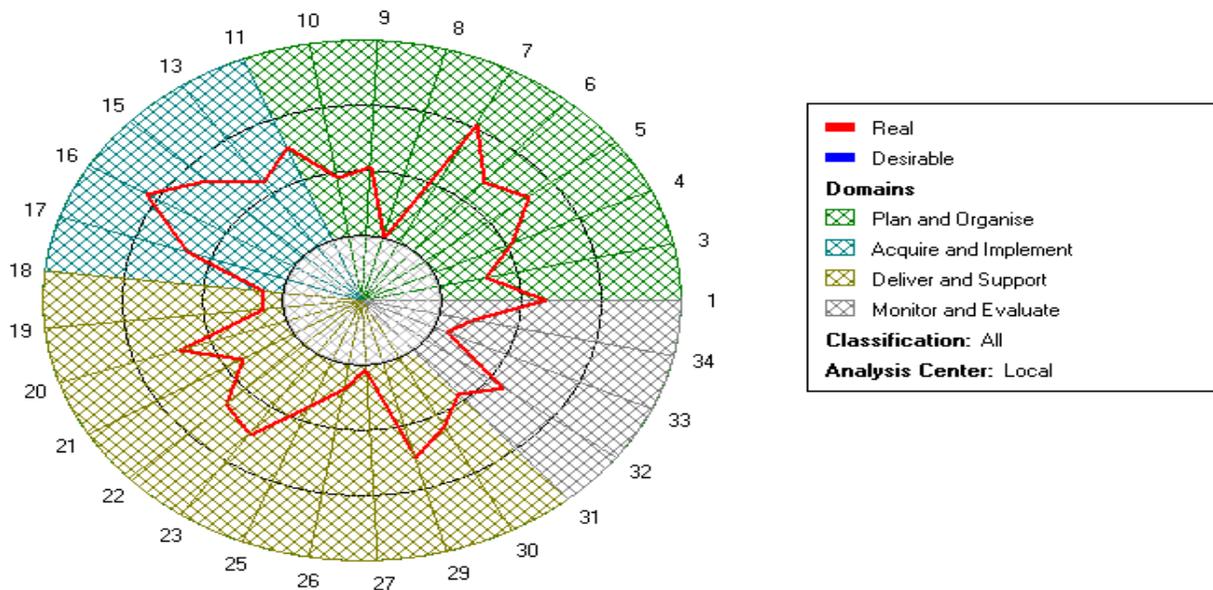
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In 2010, the change management process was externally audited, showing an achievement of a high, level 3 (incipient level 4) maturity. This result represents one of the highest scores and quickest improvements obtained for processes externally audited within the e-health practices at NHS Fife.

The improvements to the change management process also resulted in a series of improvements in linked processes, e.g., service desk and incident management, change and configuration, service level management, security management, and business continuity.

Since 2010, NHS Fife's e-health infrastructure achieved ISO 27001 certification (in January 2012) and developed a corporate framework for IT governance, which involves a recognition of the importance of IT governance regardless of whether the IT service is provided by the e-health infrastructure department or another department (currently within NHS Fife there is a federated archetype). E-health governance is positively influencing the expansion of the use of COBIT across other processes linked to e-health services within NHS Fife, but residing outside of the e-health infrastructure team, e.g., within the e-Health Programme, information services and other federated IT services.

Looking Forward

At the present time, the e-health infrastructure team is focused on consolidated metrics and establishing relevant dashboards suitable for specific needs, particularly support team management (e.g., service desk, desktop, systems, applications, network, general practitioners IT support, telecommunications), but also dashboards for specific process management service level agreements (SLAs) and security. This constitutes a step toward level 4 maturity in other critical processes.

With the release of COBIT 5 and an especially challenging e-health delivery programme for the forthcoming years in NHS Fife, the organization is focusing even more intently on meeting stakeholders' expectations and reviewing the e-health governance structure of NHS Fife to ascertain how to make the best use of the additional features, especially the principle of meeting stakeholder needs.

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Pablo Borges

Is an experienced IT consultant, working in IT governance projects across the Americas and Europe since 2006. Borges leads multidisciplinary teams to drive improvement in IT processes aligned with best practices, combining frameworks such as COBIT and ITIL with quality standards, such as ISO 27001, to design tailor-made solutions that suit business needs. He specializes in continual improvement projects and provides support in areas including information security, risk management, business continuity, major incidents and change management.

Donald Wilson, CITP

Is head of e-health and has served the NHS in Fife , Scotland, UK, for 15 years. He began his career in the electronics and computer technology field with Scottish Water and Motorola. Wilson is an active member of the e-Health Leads Group, which provides a link between NHS Boards and the Scottish Government e-Health Programme at a management level, and is key to the successful implementation of projects at the NHS board level.

Endnotes

[1] **NHS Fife web site**

Framework Committee

Editorial Content

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