Review of the literature on individual and institutional learning

Chris Joynes

April 2018

Oxford Policy Management

About Oxford Policy Management

Oxford Policy Management is committed to helping low- and middle-income countries achieve growth and reduce poverty and disadvantage through public policy reform.

We seek to bring about lasting positive change using analytical and practical policy expertise. Through our global network of offices, we work in partnership with national decision makers to research, design, implement, and evaluate impactful public policy.

We work in all areas of social and economic policy and governance, including health, finance, education, climate change, and public sector management. We draw on our local and international sector experts to provide the very best evidence-based support.

Oxford Policy Management Limited
Registered in England: 3122495

Level 3, Clarendon House
52 Cornmarket Street
Oxford, OX1 3HJ
United Kingdom

Tel: +44 (0) 1865 207 300
Fax: +44 (0) 1865 207 301
Email: admin@opml.co.uk
Website: www.opml.co.uk
Twitter: @OPMglobal
Facebook: @OPMglobal
YouTube: @OPMglobal
LinkedIn: @OPMglobal

Preface

This literature review was undertaken as part of a wider study commissioned by The Bill & Melinda Gates Foundation (BMGF). The Foundation is seeking to add to the body of knowledge and understanding on how low- and middle-income countries (LMICs) learn from other country experiences as they improve their health systems and health outcomes, in order to help inform their investment in programmes that facilitate 'improved' learning and conversion of lessons into practice. Specifically, the BMGF wish to better understand:

- What can countries learn from one another's experiences?
- How do countries learn from one another's experiences?
- Why do policy-makers sometimes want or not want to learn from one another's experience?

Within this context, the study sought to gain a clearer understanding of the way in which both individuals and institutions can acquire skills and knowledge through a process of learning. In response, this literature review focuses on the presenting evidence on approaches to individual learning and institutional capacity development for civil servants and health systems managers within the context of policy development for the health sector, with a particular focus on policy development for the health sector in low- and middle-income countries (LMICs) and on sub-Saharan Africa (SSA) in particular.

Table of contents

List of abbreviations

CoP	Communities of practice
LMICs	Low- and middle-income countries
MACH	Miner, Alperin, Cioffl, and Hunt
OPM	Oxford Policy Management
WHO	World Health Organization

1 General definitions

- **What does it mean for an individual to have learnt something?**
- **What does it mean for an institution (such as a ministry of health) to have learnt something?**

1.1 Introduction

Based on discussions captured in Jensen *et al*. (2017), the definition of the act of 'learning' within the context of health policy transfer is presented largely in terms of 'acquiring knowledge and insight from other sources', and includes knowledge and insight gained through access to documentation, through exchanges with international counterparts and domestic stakeholders, and through direct experience. Closely related to this source-orientated interpretation, 'learning' is also presented as a noun, defined in terms of 'evidence-based documentation of particular outcomes' (e.g. 'learning from other countries') that can be used to inform or guide policy-based decision making in any given context.

However, when discussing the act of 'learning' from the perspective of either individuals or institutions, it may be more appropriate to broaden this definition. In the first instance, it is proposed that this definition of 'learning' also include more formal approaches associated with the acquisition and demonstration of particular skills, knowledge, and competencies, usually as an outcome of training or other interventions designed for professional and/or capacity development.

This outcomes-orientated interpretation of 'learning' is particularly relevant when discussing the context of health systems development management for low- and middle-income countries (LMICs), where key health system functions such as planning, policy, management, and heath workforce supervision are seen to have significant needs in terms of skills, competency and capacity (Frenk *et al*., 2010; Fritzen, 2007; World Health Organization, 2010a; 2010b).

In discussing individual learning in the context of policy transfer for health systems in LMICs, this study focusses on the learning of policy makers, civil servants, and institutional managers within the national health system. It is assumed that such individuals are middle- or senior-ranking public-service professionals with graduate or postgraduate qualifications and several years' professional experience. While it cannot be assumed that they necessarily have a professional health background, Dair *et al*. (2017) state that the majority of systemic leaders and managers for health systems in LMICs are trained health professionals who rarely have any managerial training or experience prior to being offered a managerial position (World Health Organization, 2009; Byleveld *et al*., 2009; Dorros, 2006; McConnell, 2002, cited in Dair *et al*., 2017). They may be expected to gain managerial capacities by learning on the job or through brief training courses (Waddington, 2007; Egger and Ollier, 2007, cited in Dair *et al*., 2017.

In discussing institutional leaning in the context of policy transfer for health systems in LMICs, this study focuses on learning that is of relevance to key professional bodies, managerial departments, and provider institutes associated with policy and service delivery within national health systems. As such, the study focusses on learning

content in terms of those components and mechanisms that are seen to contribute to institutional development in the effective delivery of specific health system functions. However, the aim of the study is not to discuss in detail the learning requirements associated with those specific functions; instead, it will focus on the learning approaches that are seen to contribute to institutional development in a health systems context.

1.2 What does it mean for an individual to have learnt something?

Given the context and the identified learner group for this study, it is appropriate to discuss individual learning through a focus on three modes of cognitive learning associated specifically with adult learners – andragogy, constructivist learning, and Kolb's Learning Cycle:

Andragogy

The fundamental tenets of adult learning – or 'andragogy' – as proposed by Knowles (1980) assume that learners are independent, self-directed, and already possess some experience. In terms of learning outcomes, andragogy – as summarised by Milligan (1995) – proposes a mode of learning that, 'in a developmental manner, enhances the student's self concept, promotes autonomy, self-direction and critical thinking, reflects on experience and involves the learner in the diagnosis, planning, enaction and evaluation of their own learning needs' (Milligan, 1995).

Constructivist learning

Constructivist learning is a pedagogic approach whose principles of 'the self-directed learner' are closely associated with those seen for andragogy. It is also linked closely with the formulation of new fields of knowledge, based on the learner's identification of individual and professional requirements. However, unlike andragogy, it is concerned primarily with a self-directed acquisition of *knowledge* according to professional or personal need, rather than the overarching goal of development of necessary *competencies*. In constructivist learning, Brooks and Brooks (1999) make assumptions that 'knowledge is constructed, multiple perspectives reflect the diversity of individually constructed world views, knowledge is dependent on context, [and] learning is social and based on dialogue' (cited in Olmsted, 2010a). As with andragogy, a process of reflection is key to the constructivist learning process.

Kolb's Learning Cycle

Based on constructivist and experiential-reflective learning theories, Kolb's Learning Cycle (Kolb, 1984) describes the knowledge-acquisition process as a four-stage cycle: experience, reflection, abstraction, and experimentation. Like constructivist learning, this model is not designed to directly implement professional behaviour change. Instead, it focuses on the application of new knowledge in a practical setting. In terms of learning in a professional context, each stage is required to promote a fuller understanding of what is being learned and how it is applied, based on contextual needs and the work environment.

Under this range of cognitive approaches, 'learning' for adults is seen as an ongoing and reflective process. Rather than a specific and finite set of skills, knowledge, and competencies, the individual's 'learnt' outcomes are measured in terms of the extent to which the individual instead demonstrates and applies these reflective attributes and practices to the professional context they operate within.

The cognitive approaches described above therefore provide the basic criteria for an effective measure of learning necessary for professional performance improvement and health systems strengthening.

First, they fulfil the Kirkpatrick Model system (Kirkpatrick and Kirkpatrick, 2006), which outlines approaches seen to best contribute to improvements in professional performance (see Section 2), by engaging individuals into a self-directed improvement of performance, based in part on individual assessments of their professional environment and their individual competency requirements.

Second, they contribute toward health systems strengthening by encouraging learners to consider the context-specific needs of their professional and working environment as well as the broader range of ongoing capacity-building activities for health systems strengthening, of which their own activities form one element.

Reflection on prior professional experience and a familiarity with or awareness of the systemic work environment play particularly important roles in developing that important understanding of 'the clinical and managerial realities of any given health system' (Davies *et al*., 2005), an approach that is key to the effective transfer of health policy in LMICs. In the specific context of health policy transfer, it is also important to note that cognitive learning's staged and cyclical learning approaches are closely aligned with the six phases of policy transfer identified and captured in Jensen *et al*. (2017): 1) conceptualisation; 2) formation; 3) internalisation; 4) contextualisation; 5) operationalisation; and 6) evaluation.

As an extension of this last point, it is worth mentioning here 'heutagogy', a recent theory arising from vocational training in Australia that builds on andragogic learning and transformational learning. In addition to advocating for self-directed learning, it recognises the dynamic, complex, and uncertain environments that health workers are required to practice in (Boyrub *et al*., 2010). Hase and Kenyon (2007), in proposing the heutagogy conceptual framework, argue that learning often occurs outside the realm of structured formal learning environments, and that practice-based settings afford learning opportunities to translate competencies into individual capabilities to perform (cited in Bhoyrub *et al*., 2010). In the context of professional development within the health sector, this translates into cultivating in learners an alertness to the structures of the working environment. In its turn, this facilitates a process of reflective engagement with the policies and strategies that govern the health system, thereby contributing to a wider process of health systems strengthening (World Health Organization, 2007), a form of political engagement identified by Perraton (2010) as one of the basic criteria for successful programme implementation.

In the application of cognitive learning approaches for individuals, there are a broad range of teaching and learning activities and resources that can be utilised. In addition, such modes can also be enhanced by the use of additional activities associated with alternative learning approaches, including associative (Merrill, 2002) and situative (Wenger, 2002) learning. Situative learning, which takes account of the role that professional interaction plays in the learning process, is of particular relevance to the

range of activities associated with the six phases of policy transfer. These issues are discussed in more detail in Section 2 of this study.

1.3 What does it mean for an institution to have learnt something?

It can be argued that there are certain parallels to be made between the principles of learning that are best applied to adult learners operating in professional contexts and the principles of learning that underpin the means through which institutions acquire knowledge.

First, as with adult learning, effective 'institutional learning' is not based purely on the acquisition and application of specific or finite pieces of knowledge. Rather, it is based on the institution's capacity to engage in an ongoing process of development and self-learning through institutional self-assessment, reflection, identification of need, and facilitation of change.

In this context, any demonstration of institutional learning is measured in terms of the presence of active and appropriate institutional mechanisms designed to facilitate those ongoing processes of development outlined above. These include:

- Effective internal systems and procedures for performance assessment across all key institutional functions, e.g. departments for delivery, committees for monitoring and assessment, and procedures for facilitation;
- Accountability frameworks to delegate responsibility;
- Key staffing roles;
- Required individual and departmental competencies; and
- Procedures for gathering and analysing evidence of performance.

The presence of such mechanisms is seen as a measure of the extent to which institutions, and health institutions in particular, are effective in terms of performance. But such mechanisms are also seen as key in ensuring that any institution is capable of learning, based on its responsiveness to need and their flexibility in change, a quality summarised as 'resilience' (Gilson *et al*., 2015) – a factor of particular importance within the context of health service delivery in LMICs (Gilson *et al*., 2015; Frenk *et al*., 2010).

Any institution's ability to deliver on these mechanisms and fulfil these attributes is enabled in part by ensuring that there are adequate resources in terms of infrastructure, workforce, and financial capacity. However, Barasa *et al*. (2017) state that health system resilience is less about 'hardware' and more about systemic 'software'. While ensuring that health systems are adequately resourced with infrastructure, health workers and health commodities helps to bolster 'resilience', institutional and systemic resilience is based on the following:

- effective planning processes;
- management and leadership capacities;
- health worker motivation;
- productive institutional cultures; and
- healthy power dynamics among system actors and stakeholders.

(Gilson *et al*. 2017, cited in Barasa *et al*. 2017).

A systemic resilience framework that recognises and acknowledges the importance of the role that such factors have in ensuring effective delivery can therefore provide the basis for action in health systems strengthening through a process of institutional learning (Barasa *et al*., 2017). Therefore, in discussing both the components and mechanisms that are seen to contribute to institutional learning, Section 3 of this study will focus on the range of elements and approaches that are seen to develop the above institutional attributes.

2 Individual learning

- **What are the necessary components for learning at the individual level (i.e. what are the required inputs)?**
  - Specifically, what is needed in addition to information or evidence?
- **What are the main different mechanisms through which individuals learn? i.e. degrees, short courses, seminars, conferences, on-the-job experience, work shadowing, etc.?**
- **What are the main barriers to individual learning?**

2.1 Introduction

As outlined in Section 1, in discussing individual learning, this study focuses on activities for the professional development of policy makers, civil servants, and institutional managers within national health systems. Further to this, the study also considers learning in terms of the acquisition and demonstration of skills, knowledge, and competencies associated with health systems development management for LMICs, with a particular focus on learning for outputs associated with policy transfer.

This section discusses, in general terms, the range of activities and inputs that are seen to support individual learning in this context. However, it is worth noting that many of the learning approaches outlined are applicable to key health system functions such as planning, policy development, health service management, and heath workforce supervision – and are therefore relevant to issues of capacity development in areas beyond policy transfer too.

2.2 What are the necessary components for learning at the individual level?

When discussing the necessary components for learning at the individual level, we provide a summary introduction to the range of practical, theoretical, and instructional design components that are seen as key in contributing to individual learning, both in general and in a professional learning context within the health sector.

As far as possible, we seek to define these in terms of the range of inputs that are seen as effective in the acquisition and demonstration of skills, knowledge, and competencies associated with sustainable health systems development management.

A summary of practical learning components

Table 1 provides a summary overview of the range of practical components that are seen to contribute to individual learning, as well as the basic pedagogic functions that they serve.

It is important to point out at this stage that none of these components are *essential* to ensuring individual learning. Most learning initiatives – whether formally certified programmes of study for the development of skills or competencies or non-formal

processes for knowledge enhancement – often use only a selected range of components to facilitate delivery. However, it remains the case that the more extensive the range of categories and components that any learning initiative can offer, the more effective that initiative is likely to be in terms of the achievement of individual learning outcomes.

It is also important to distinguish at this stage between *formal* and *non-formal* learning initiatives. While there can be significant overlap between how the two are delivered, a key distinguishing factor is the way in which individual learning is assessed and whether the learning initiative is certified. Strongly regulated assessment (e.g. graded assignments, graded project or portfolio work, and terminal examinations) are a particular feature of formal programmes, as are certified outcomes such as qualifications. Non-formal learning initiatives are not formally assessed to lead to certified qualifications, although there may be mechanisms for the informal assessment of individual progress.

Table 1: Programme design and delivery components

Category	Optional components	Function
Learning materials	• Self-study materials • Workbooks • Study guides • Key texts • Supplementary materials and libraries	• Presentation of subject content • Presentation of programme of study • Self-assessment activities • Reflective learning activities • Constructivist learning tasks
Learner support mechanisms	Face-to-face support: • Seminars and lectures • Tutorial meetings • Peer study groups • Work-based mentoring • Residential sessions	• Presentation of subject content – didactic learning; reflective learning • Formative study guidance • Dialogue and knowledge exchange • Situative learning tasks • Pastoral contact and guidance
	Distance support: • Written tutorial support • Individual e-mail / telephone • Web-based support networks	• Formative study guidance • Dialogue and knowledge exchange • Pastoral contact and guidance
	Assessment mechanisms: • Self-assessment activities • Tutor-marked assignments • Projects and study portfolios • Written examinations • Practical observation	• Self-assessment • Continuous and summative assessment • Reflective learning tasks • Constructivist learning tasks • Situative learning tasks

Administrative mechanisms	• Registration • Materials distribution • Assessment collection and distribution • Record-keeping • Technical support for tutors and learners • Quality assurance • Regional or international support networks	• Provision of programme content and programme of study • Provision of study guidelines • Formative and summative guidance • Technical support • Pastoral contact

Source: adapted from Joynes (2011)

In addition, each component may play single or multiple functions in assisting the learner and supporting the learning process. For example, the various forms of contact between tutor/mentor and learner may be designed to serve as both didactic and reflective tools for: a) knowledge and skills transfer to assist with the presentation of content to learners; b) academic coordination and guidance to assist with the self-directed process of learning; and c) pastoral contact and motivation, as a means to enhance learner engagement (Merrill, 2002; Laurillard, 2002). Similarly, various forms of assessment can be used in a reflective or constructivist mode to assist the learner in measuring their academic progress and to provide study guidance and pastoral contact (Laurillard, 2002; Kolb, 1984).

A summary of approaches to structuring learning in a professional context

The effectiveness of the range of components outlined above is dependent on the way they are designed and used. As a basic starting point, any initiative designed to ensure the effective learning of individuals in a professional context should seek to include components that are aligned with each of the four levels of training effectiveness identified by Kirkpatrick and Kirkpatrick (2006).

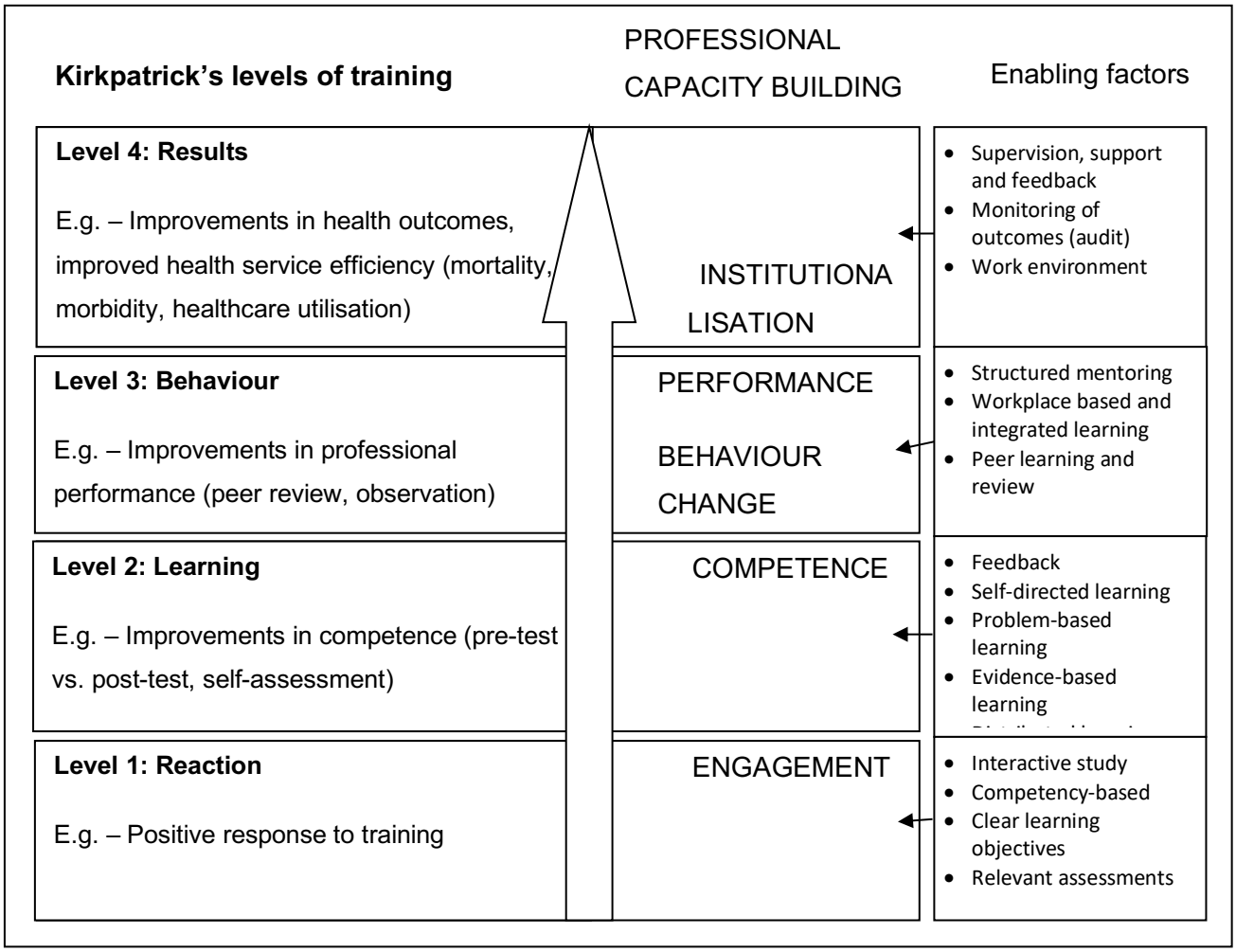
Figure 1 provides a conceptual framework of capacity-building inputs based on the Kirkpatrick Model for Evaluation Effectiveness of Training Programmes, which outlines the training approaches seen to best contribute to improvements in individual professional performance within health systems. The framework describes the progression from professional engagement in learning, to competence, performance, and performance institutionalisation.

In the Kirkpatrick Model, the first level of training effectiveness is to achieve a positive response from the learner, otherwise seen as learner engagement with the training process. This builds the foundation for improved learning effectiveness but is not sufficient on its own to enable the development of competencies and improve performance. Various strategies described in the literature that have been demonstrated to improve learner engagement include the use of components of interaction between learner and teachers and between learners.

Under the second level, competency-based education allows for an individualised learning process, where learners can explore a range of options and, through application, select those that best apply according to their own needs and contexts (Frenk *et al.*, 2010). This mechanism ties in closely with the principles of cognitive learning discussed in Section 1 of this study. A competency-based approach, coupled

with clear learning objectives, can also focus the learning process toward developing and applying specific skills – inputs of direct relevance to the development of skills for civil servants and health managers involved in policy transfer.

Figure 1: Professional capacity-building model for health systems strengthening



Thirdly, in order to build individual capacity for health systems strengthening, learning should be supported by strategies to enable behaviour change for the institutionalisation of improved performance. With this in mind, the evidence base does advise that training programmes should take into account the equal importance of the work environment as an enabler of improvements in health outcomes and to address them accordingly (Cook et al., 2010). These and other matters will be discussed further in Part 3.

Identified components for effective learning in a professional context

While the Kirkpatrick Model gives an overview of the way in which learning should be structured, the 'Enabling Factors' listed in Figure 1 give an indication of the range of

design and delivery components that are seen to contribute to effective learning for professional contexts. These include:

- context-based tasks and objectives;
- self-directed study based on learners' own professional needs;
- opportunities for engagement with peers and colleagues; and
- regular supervisory support (Kirkpatrick and Kirkpatrick, 2006).

Further to this, for learning initiatives within the health system to have an impact on learners in terms of both the attainment of competencies and the application of these through behaviour change, key components include:

- significant components of work-based training – approximately 80% of training activities should be work-based;
- a supportive working environment, as demonstrated with work-based mentor and preceptor schemes;
- learner involvement in the work-based decision-making process; and
- modes of assessment that entail direct engagement with working procedures (Wuliji, 2010).

The role of feedback and supervision is particularly crucial to the learning cycle, with mentors or peers acting in a facilitative role to encourage reflection. In both theoretical and applied contexts, evidence shows that learners need ongoing feedback and supervision to enhance their learning outcomes. Feedback and supervision has been repeatedly cited in the literature as an important requisite for improvements in individual performance within health systems (Horwood *et al*., 2009, Dieleman *et al*., 2006, Cook *et al*., 2010a, Chaudhury *et al*., 2005).

In general terms, these components align closely with the approaches to learning outlined in association with cognitive learning in Section 1.2 of this study. However, these general options can be further extended by drawing on the range of instructional design and delivery activities associated with cognitive learning plus other learning approaches – for example, associative and situative learning. The range of activity types that can be used as key components for learning in a professional context, together with the pedagogic/andragogic theories and educational characteristics that underpin their application, are summarised in Table 2:

Table 2: Pedagogic frameworks and models

Category	Teaching and learning approaches	Associated theories and frameworks	Educational characteristics	Application in training provision
Cognitive	• Constructivism • Constructionism • Reflective learning • Problem-based learning • Inquiry learning • Dialogic learning • Experiential learning	• Kolb's learning cycle • Laurillard's Conversational Framework • Community of Inquiry framework • Jonassen's Constructivist Model • N-Quire model	• Learning as the transformation of experience into knowledge, skill, attitudes, and values • Learning as transformation and creation of own internal learning processes • Task-orientated, self-directed activities • Language and discussion as a tool for joint construction of knowledge	• A personalised approach to learning • Activities drawing on learner experience • Learner application of and reflection on new knowledge • Academic support systems that guide users • Access to optional resources and expertise • Asynchronous and synchronous interaction for richer forms of dialogue and exchange
Associative	• Behaviourism • Instructional design • Didactic learning	• Merrill's instructional design principles • General models of direct instruction	• Learning as behaviour modification, via stimulus-and-response models pairs • Learning through association and reinforcement • Controlled and adaptive learner response with observable outcomes	• Content presented as action-in-stages • Self-assessment activities • Content and learner activities linked directly to assessment and feedback
Situative	• Cognitive apprenticeship • Case-based learning • Scenario-based learning • Collaborative learning • Social constructionism	• Activity Theory • Wenger's Community of Practice • Connectivism • Salmon's five-stage e-moderating model • Preece's framework for online community	• Learning as social participation • Learning as a collaborative creation of knowledge • Take social interactions into account • Learning placed within a wider socio-cultural context of rules and community	• Emphasis on social learning, communication, and collaboration • Shared knowledge banks and resources • Access to expertise as moderator • Programme adaptation in response to learner discussion and feedback • Formation and/or enhancement of communities of practice

Source: Adapted from Conole (2010)

In the context of this study, it is important to note that the practices associated with the application of situative learning approaches are of particular relevance.

First, in terms of the identified learner group (i.e. health systems leaders and managers), the range of competencies associated with leadership and management actions place an emphasis on: a) cognitive intelligence, including the ability to perceive multiple causal relationships; b) emotional intelligence, including the ability to perceive one's own emotions and attitudes, their effects on others and on oneself, and the ability to generate inspiration and commitment; and c) social intelligence, including the ability to network, develop trust, collaborate, empower others, display empathy, and manage conflict (Doherty and Gilson, 2015; Boyatzis, 2008; Day, 2001; Zand, 1997; Hogan and Kaiser, 2005; Gardner *et al*., 2005; cited in Dair *et al*., 2014).

Second, in terms of learning for policy transfer, Jensen *et al*.'s 2017 review of international health policy transfer, together with the country case studies, identify a range of existing practices and processes that are key facilitators of learning to support the transfer process. A significant number of these are clearly aligned with the range of situative activities identified above. These include:

- Policy networks to promote dialogue and relationships between a broad range of policy transfer stakeholders (Jensen *et al*., 2017);
- Donors facilitating exposure visits to other countries (country case studies: Bangladesh; Rwanda);
- Engagement with international advisers and technical expertise to support policy design and operationalisation (country case studies: Cambodia; Bangladesh; Rwanda);
- Networks of technical working groups reporting to steering committees to support the contextualisation process (country case study: Nepal);
- The focus on communication and information sharing to strengthen local provider organisations (country case study: Ethiopia).

In both cases, the highly situated and social aspect of situative learning is of key relevance to individual learning in this context.

2.3 What are the main different mechanisms through which individuals learn?

This section outlines the different mechanisms used to enable individual learning, particularly in the context of professional performance within the health sector. In this case, 'mechanisms' refers to the general frameworks and modalities for the delivery of learning initiatives. Within this, the specific approaches and activities that these frameworks might use to deliver learning have been outlined in Section 2.2 above.

Accredited programmes of study

The most commonly recognised study mechanisms, particularly for adult learners operating in a professional context, are accredited programmes of study, usually operating at degree or postgraduate level and, in the case of the health sector, usually offered by higher education institutions or by professional regulatory bodies operating

in collaboration with a credit-awarding body. Formal training remains the most common approach used in LMIC contexts (Dair *et al*., 2014).

As a mechanism, it is important to recognise the relative formality associated with accredited programmes of study, in terms of the range of learning components such programmes seek to utilise and the sophisticated ways in which the learning process is structured over the given period of study. To enhance their effectiveness, accredited programmes of study, particularly within a health context, frequently involve a range of additional modes for delivery, including campus-based learning, work- or community-based learning, and self-study or distance learning.

However, it is worth noting that, in terms of learning for policy makers and health systems managers there are relatively few accredited programmes of study available, and the majority of these are designed for already-qualified health professionals. The offerings include modules within master's programmes, diplomas, certificates, and short courses, whether provided through face-to-face instruction or distance learning (Byleveld *et al*., 2009; Egger and Ollier, 2007; Day, 2001, cited in Dair *et al*. 2014). However, in terms of content, such qualifications generally retain a focus on health administration rather than policy making (Joynes, 2011).

A selection of examples includes:

- World Health Organization/University of the Western Cape, South Africa: Master's in Public Health focusing on Health Workforce Development;
- London School of Hygiene and Tropical Medicine, UK: MSc/PG Dip/PG Cert in International Primary Healthcare;
- Indira Ghandi National Open University, India: Postgraduate Diploma in Hospital and Health Management;
- Public Health Resource Network, India: Postgraduate Diploma in District Health Management;
- National Rural Health Mission, India: Structured Learning Course on Decentralised Health Management; and
- Centre for Educational Development in Health, Tanzania: Postgraduate Diploma in District Health Management.

Campus-based learning

While there is no published analysis of campus-based training programmes within the health sector internationally, for most health professionals this delivery mechanism likely forms the mainstay of post-qualification professional learning globally. Most postgraduate university-based master's degrees for the health sector in LMICs are attained through participation in classroom-based programmes, although there is an increasing trend toward mixed modalities that include components of workplace- or community-based learning and/or distance learning (Joynes, 2011).

Workplace-based learning

As highlighted by Wuliji (2010), workplace-based learning is regarded as a key mechanism though which learning initiatives within the health system can have an impact on learners in terms of both the attainment of competencies and the application of these through behaviour change. Work-based learning is employed to integrate

learning into real-life scenarios to improve performance. This mechanism could be applied to any set of professional knowledge, skills, or competencies, and the examples within a health context are diverse. Approaches range from informal and even unintentional learning to more formal programmes of induction (Dorros, 2006).

Workplace-based learning can be seen as a form of blended learning that provides learners with the opportunity to contextualise and apply learning while also undertaking units of self-study, possibly leading to accreditation and formal qualifications. From a systemic perspective, this can result in reduced disruption to work patterns, as learning activities are supported in the field or workplace and do not exclusively involve prolonged absence to attend classroom-based activities. As an example of this approach in action, the experience in Liberia with running a six-month training programme on health facility management found that short courses at regular intervals not only reduced disruption to health facilities but also allowed time for field-based learning that supported participants to apply their learning to specific problems in their work environment (Rowe *et al*., 2010).

The limited body of literature that exists on the *effectiveness* of workplace-based learning in a health context has identified the empiric value of the principles of 'contextual learning' and 'actualisation of the result of learning' (Zmeyov, 1998). Identified key learner outcomes resulting from workplace-based learning include: enhanced practical and skills-based competencies, particularly in a clinical context; increased professional competencies covering activities such as administration, data gathering, leadership and management, and effective decision making; and greater capacity for problem analysis and solution identification in the work setting. It is important to note that workplace-based learning is also seen to contribute to holistic factors associated with effective work-based performance, including professional and personal motivation, peer-to-peer interaction and team work, and commitment to workplace improvements.

However, it should be noted that workplace-based learning requires high-quality field supervision and committed support from practice and field sites, which may require prior investment for this approach to succeed (Joynes, 2011).

Community-based learning

Community-based learning as a framework mechanism places emphasis on providing learners with the competencies to identify and address community health needs, as determined by local cultural and contextual factors. In a formal context, community-based learning frequently bases content and curricula around national priority health problems, often drawn from identified government priorities and national service programmes (Mullan *et al*., 2010b; Mullan *et al*., 2010a). Structured community exposure and community-based education provides learners with experience working with under-served populations and improves their preparation to deal with national health priorities (Mullan et al., 2010a: p7).

In some cases from sub-Saharan Africa, community-based learning combined with structured evaluation techniques has led to high satisfaction among learners, together with lower attrition rates and greater perceived ability to function in rural communities. However, as a mode of delivery in LMICs, it can suffer from constraints due to unreliable public services and utilities, language barriers at some rural sites, and challenges in maintaining high educational standards among those who supervise learners (Mullan *et al*., 2010b; Mullan *et al*., 2010a). In addition, while community-

based learning would be of great value to policy makers and health managers seeking to undertake the range of policy-transfer processes outlined in Jensen *et al*. (2017), most cases of community-based learning see it utilised for the training of clinical and public health staff.

Action-based learning

Action-based learning includes a range of approaches includingaction research, learning by doing, capacity building, joint development activities, participatory capacity building, and collaborative learning (Dovey, 2002; Ferrelli *et al*., 1997; Omaswa *et al*., 1997; Kerrigan and Luke, 1987, cited in Dair *et al*., 2014). It typically combines elements of formal training with mentoring and support and uses assignments and reflection drawn from the work context as the learning vehicle (Pedler, 1991).

In the context covered by this study, action-based learning requires any programme of training to work with participants in identifying the key tasks or outputs they are required to deliver within their current working environment. However, rather than existing or routine professional activities, action-based learning is more likely to look at new interventions associated with the delivery of key strategic outputs at institutional or systemic level. The programme then works with participants to analyse and identify the range of activities involved in delivering that output, the skills and capacity required to design and implement the delivery, and the likely challenges and issues that will need to be addressed. From this point, the programme then works with the participants in establishing mechanisms that facilitate a cyclical process of knowledge acquisition, skills development, application, and assessment to support the delivery of the selected output.

In such a context, the action-based learning approach uses work-based responsibilities as the 'subject' to drive learning and draws on the professional and personal motivations associated with workplace achievement as a key resource in mobilising learner commitment to quality. It also assumes that leadership, management, and professional development is best achieved if integrated into the work and activities being managed and implemented in the work setting (Lave and Wenger, 1991; Raelin, 1997; Dovey, 2002, cited in Dair *et al*., 2014). As such, it is closely aligned with situative learning approaches that build on interpersonal and peer-based professional relationships.

Research into action-based learning suggests that the approach has potential for management and leadership development (Ferrelli *et al*., 1997; Omaswa *et al*., 1997; Dovey, 2002, cited in Dair *et al*., 2014), as well as for improvements to individual and institutional performance. The FAIMER programme reports that over half of all that programme's action-based projects led to changes in curriculum and institutional policy (Burdick *et al*., 2010a). At an international level, the USAID-funded Management Sciences for Health Virtual Leadership Development Programme provides a particularly sophisticated and systems-orientated example of action-based learning with a global outlook.[1]

[1] See www.msh.org/resources/virtual-leadership-development-program-vldp

Supervisory support for learning

Within the context of health systems, supervisory support takes place as a general part of organisational performance management and mentorships via peer or hierarchical mechanisms. It often takes the form of structured supervision and teaching for clinical health workers through preceptorship or clinically supervised practice. Evidence suggests that supervision, supervisory visits, and feedback through peer review may reinforce performance over time (van Lonkhuijzen *et al*., 2010). Similarly, feedback and audits have been found to have small to moderate effects on practice (Jamtvedt *et al*., 2006). A 2007 Cochrane review of 118 studies reporting the effect of audits and feedback on professional practice and healthcare outcomes found small to moderate effects on professional practice, with greater gains in scenarios with low baseline practice standards and with more intensive feedback (Jamtvedt *et al*., 2006). However, these effects were not always observed consistently, which suggests significant heterogeneity in the mechanisms through which audit and feedback may be conducted, along with other interventions and enabling factors that may limit or maximise impacts (Ibid.).

In the context of policy transfer, Jensen *et al*. (2017) make mention of the role of international technical advisers in mentoring individual performance at national level. However, the extent to which these mentoring activities include formal procedures for the provision of feedback for performance improvement is not made clear.

Interdisciplinary education

Interdisciplinary education is a particular feature of professional development within the health sector. It aims to encourage different professionals to meet and interact in learning to improve collaborative practice and the health care of patients/client (Reeves *et al*., 2008). This mechanism is seen as a means of strengthening relationships between professional groups, fostering team approaches, and improving collaborative practice competencies. Furthermore, interdisciplinary exchange has proved useful in preparing learners for new or expanded roles and responsibilities in the workplace (WHO, 2009b; Watts *et al*., 2003). In particular, it can be used to enhance competencies in leadership and management, analytical skills, and communications (Reeves *et al*., 2008). As an approach, it is built upon the assumption that it prepares health workers to be collaboration-ready, and that this in turn prepares them to be better equipped to meet health needs in the most efficient and effective manner (Health Professions Networks, 2010). Based on the facilitative approaches for policy transfer outlined in Jensen *et al*. (2017), as a modality it seems highly relevant to the context of this study.

Communities of practice (CoPs)

CoP is a generic term to cover broad groupings of stakeholders that share insights and exchange experiences (about health system strengthening, in this case). CoPs are usually informally structured around collaboration between individuals. This is in comparison to networks of practice, where collaboration is typically institutional and more formalised (Bandhari *et al*., 2017), or to work-based learning, which is more usually utilised by training providers as one modality within a formally accredited programme of study. Wenger (2002), in a discussion of situative approaches, bases CoPs on the following premise:

> Communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their understanding and knowledge of this area by interacting on an ongoing basis… As they spend time together, they typically share information, insight, and advice. They solve problems. They help each other… They think about common issues. They explore ideas and act as sounding boards to each other…. they become informally bound by the value that they find in learning together
>
> (Wenger 2002: p27).

Within the context of work-based learning and learning for professional performance enhancement, situative learning takes particular account of the role professional interaction plays in the learning process. A systematic review of CoPs in the health sector found groups ranged from voluntary informal networks to formal education sessions, with social interaction, knowledge creation, knowledge sharing, and identity building as their major characteristics (Li *et al*., 2009, cited in Bandhari *et al*., 2017). Within this context, activities such as conferences, seminars, and other forums for the sharing of knowledge and evidence might be best considered as CoPs. They might also include workplace-based teams of learners and localised groups of peer learners (van Lonkhuijzen *et al*., 2010; O'Brien *et al*., 2001) and work-based preceptorship and mentoring schemes (Billay and Yonge, 2004; Kilminster and Jolly, 2000). In keeping with this, Li *et al*. (2009, cited in Bandhari *et al*., 2017) also highlighted a broad range of interpretation of the CoP concept, as well as the importance of the role of a facilitator for sustained continuity within CoP groups.

2.4 What are the main barriers to individual learning?

There are a range of factors that can act as barriers to effective individual learning. Within the context of learning for individual performance enhancement and systemic improvement, these factors can be categorised as follows:

Weak instructional design and delivery components

Weak instructional design and delivery can impact on both formal and non-formal programmes of learning, with outcomes seen in terms of poor or reduced levels of learning, poor learning achievement or individual capacity development, and low levels of learner engagement or motivation.

It is represented by issues pertaining to **study materials**, including: poorly designed curriculum or learning materials; irrelevant or inappropriate content; and inadequate or difficult-to-access resources. Inadequate **learner support mechanisms** can also have a negative impact on learning (particularly in work-based settings) as a result of inadequate or infrequent academic or technical support, peer-to-peer support, and pastoral or professional guidance. Inadequate **assessment and feedback,** seen for example in terms of inadequate or poorly designed opportunities for self-assessment, poorly designed or irrelevant assignments and summative assessments, and inadequate feedback or academic guidance, also have an impact on learning. Finally, learner engagement is impacted by poor **administrative mechanisms**, e.g. poor communications or information sharing and inadequate or untimely distribution of learning resources.

Poor integration of structured learning within the professional environment

As stated in Section 1 and above, best practice in 'learning' for adults in a professional context is seen as an ongoing and reflective process, in which outcomes are measured in terms of the extent to which the individual demonstrates and applies reflective attributes and practices to the professional context in which they operate. Effective delivery of this approach relies on learners having the opportunity to: a) make individual assessments of their professional environment; b) identify their individual competency requirements; and c) engage in self-directed improvement of both individual *and* systemic performance (Kirkpatrick and Kirkpatrick, 2006). Andragogic approaches also assume that adults have a readiness to learn prompted by performance needs, are task- or problem-centred in their approach to learning, and have complex internal motivations to learn including self-confidence, self-actualisation, and self-esteem (Knowles, 1985; cited in Milligan, 1997).

However, for these needs to be met, and for the required activities to take place effectively, the learning process needs to be integrated into the work environment through enabling factors such as: scope for autonomy and self-direction within individual roles; structured mentoring and professional support; forums for peer exchange and discussion; forums and procedures for the facilitation of change; and monitoring of outcomes (Kirkpatrick and Kirkpatrick, 2006).

These mechanisms can exist as part of either a formal or non-formal learning process. However, without such mechanisms either established or functioning, the individual's learning will be impacted by low levels of motivation and engagement, a lack of purpose or direction, and low levels of behaviour change. In addition, this will result in higher levels of professional isolation, plus low levels of systemic change and/or institutional capacity building for health systems strengthening.

Unsupportive working environments

Outside the specific context of the delivery and application of learning in a professional context, the wider professional environment can also act as a barrier to individual learning in a professional context.

A recent WHO report states that while an enabling working environment is important in terms of allowing newly acquired competencies to be put into practice, the influence of institutional factors such as resources, equipment, and infrastructure on learning performance should not be underestimated (Wiskow *et al*., 2010; van Lonkhuijzen *et al*., 2010). Further to this, the MACH (Miner, Alperin, Cioffl, and Hunt) model, describing the development of individual competencies and performance in the health workforce through organisation and instructional theories, recognises that deficiencies associated with management and organisational development can impact on individual performance improvement (Miner *et al*., 2005).

However, in the context of health systems within LMICs, it is noted that this professional environment is frequently based on a highly centralised and controlled system, and there may be little incentive or support for managerial initiatives and innovations that encourage autonomy or improve contextual responsiveness (Byleveld *et al*., 2009; Waddington, 2007, cited in Dair *et al*., 2014).

Moreover, in the specific professional context of policy transfer for health systems, in addition to processes of 'learning' for the attainment of transfer goals, Bennett *et al*. (2015) also point to the fact that 'coercion, socialisation, and competition' are also widely theorised in the general policy transfer literature. Within this, Jensen *et al*. (2017) refer to the influential roles played by stakeholders with a vested interest in the transfer and uptake of policy, including international agencies, national political actors including government elites and key private sector entrepreneurs, policy recipients including health systems actors and the public, and public and private sector providers.

These are all factors that can impact negatively on key enablers of professional learning at both an individual and institutional level by, for example, reducing levels of autonomy and self-direction, negating the value of established forums for discussion and exchange, and undermining procedures for the facilitation of change (Wonodi *et al*., 2012). First, in the context of learning for leadership and management, this might lead to the loss of promising future leaders if the health sector is cramping innovative leadership practices (Dair *et al*. 2014). Second, the above processes are all seen as critical in supporting effective policy engagement (Bennet *et al*. 2012).

3 Institutional learning:

- **What are the necessary components for learning at the institutional level?**
- **What are the main different mechanisms through which institutions learn?**
- **What are the main barriers to institutional learning?**

3.1 Introduction

As was outlined in Section 1, in discussing institutional learning this study focuses on activities for improving the institutional performance and resilience of professional bodies, managerial departments, and provider institutes associated with policy and service delivery within national health systems. Further to this, the study also considers institutional learning in terms of the acquisition and demonstration of institutional capacity associated with health systems development management for LMICs, with a particular focus on learning for outputs associated with policy transfer.

This section discusses, in general terms, the range of activities and inputs that are seen to support institutional learning in this context. However, it is worth noting that, as with individual learning, many of the components and mechanisms outlined below are applicable to key health system functions such as planning, service delivery, health service management, and heath workforce supervision. They are therefore relevant to issues of systemic knowledge and capacity development in areas outside of policy transfer.

3.2 What are the necessary components for learning at the institutional level?

When discussing the necessary components for learning at the institutional level, this section provides a summary introduction to the range of systemic competencies that are seen as key in contributing to effective institutional learning within the health sector.

A summary of required institutional competencies

As a first step in setting these out, the 2007 WHO Framework for Action on Health Systems Strengthening defines six interlinked components or building blocks of an effective health system. These are service delivery, health workforce, information, healthcare technologies (including medicines, vaccines, etc.), financing, and leadership and governance (WHO, 2007). Table 3 uses the WHO Framework to outline the attributes any institution or system needs to acquire in relation to these, and provides examples of the specific outputs through which institutional learning might be demonstrated:

Table 3: Health systems building blocks and institutional learning requirements:

Building block	Desirable attributes	Examples of 'learnt' approaches

Service delivery	Needs-based and responsive to effectively, safely, and appropriately deliver quality health services in a timely and accessible way	Development of packages of integrated services, delivery models, infrastructure, management, safety and quality, and demand for care (health-seeking behaviour)
Health workforce	Fairly distributed in adequate numbers to competently, efficiently and safely provide quality health services where they are needed	Development of national health workforce policies and strategic plans, advocacy for health workforce development, establishing human resource information systems, improving health workforce recruitment, distribution, competence, performance and retention
Information	Enables the generation, interpretation and dissemination of health determinants, health systems performance, and health status indicators	Development of facility- and population-based information and surveillance systems
Medicines, vaccines, and health technologies	Equitably accessible and quality assured, safe, effective, and affordable	Development of national essential medicines policies, robust regulatory systems, and strengthen procurement and supply chain distribution competence and capacity
Financing	Provides and generates adequate resources in such a way that improves affordability and protects end users from catastrophic costs of healthcare	Development of national health financing policies, updated databases on health expenditure, and strengthening of methodologies for costing
Leadership/ governance	Ensures strategic policy and regulatory frameworks for effective and accountable management of resources, processes, and system inputs	Development of health sector policies, improved oversight and regulation, strengthened management capacity, and strengthened positioning and capacity of civil society to hold leadership accountable

Source: Adapted from the WHO Health System Framework (WHO, 2007)

In facilitating institutional and systemic learning that addresses the above goals, WHO currently advocates for an integrated approach that harnesses both horizontal and vertical approaches and leverages resources from both, to overcome barriers for the achievement of a specific healthcare outcome (WHO, 2007; WHO, 2009b). Within this, the design and delivery of the various elements of institutional learning, including content, approaches, and methods, will be responsive to the health needs of a population and determined by a commitment to social accountability (WHO, 2010). Generating a system-wide understanding of this interdependence of functions is also

seen as an important element, as it underscores the way in which various aspects of health systems interact with each other in service delivery (Frenk *et al*., 2010).

A summary of key components for institutional learning

In relation to an institution's ability to fulfil the above framework, and in terms of systemic needs within LMICs in particular, a number of significant institutional competency needs have been identified. These competencies should be able to adapt to local circumstances, while also utilising global knowledge and experiences (Frenk *et al*. 2010). Based on these, several key components for required institutional learning are identified below. These include: institutional leadership and management; institutional human resources for health and systems management; procurement and supply chain management; research; and competencies in terms of strategic change planning and management. Each of these is detailed in turn below. However, additional competencies associated with institutional learning also include: heath worker training; primary healthcare delivery; and advanced specialist medical competencies (WHO, 2007).

Leadership and management

Strong leadership and management competencies have long been identified as key elements for encouraging health systems that are responsive to population needs (de Savigny and Adam, 2009; Vriesendorp *et al*., 2010, cited in Dair *et al*., 2014) and thereby reflect the basic principles of institutional learning in a health systems context. Vriesendorp *et al*. (2010) argue that a conceptualisation of 'managers who lead' provides a holistic approach to running healthcare programmes, organisations, or facilities, where strong leadership and managerial practices strengthen organisational capacity to support those activities associated with institutional learning, and thereby result in higher-quality services and sustained improvements in health. Management and leadership are presented as an important and closely inter-related aspects of a single role (Bolden, 2004; Mintzberg, 1975; Gosling and Mintzberg, 2003, cited in Dair *et al*., 2014) and are both necessary for success in complex organisations (Kotter, 2001, cited in Dair *et al*., 2014).

In terms of content and delivery, Doherty and Gilson (2015) emphasise leadership training that involves working and decision making in teams, gaining a sound understanding of personal motivations and behaviours, focuses on supporting reflective practices, and ensures the development of a model of leadership seen in appropriate professional behaviour.

Within the field of leadership development for institutional learning, general activities might include: building healthcare management competence, such as seen in the six-month health management skills training programme run in a collaboration between Yale University and Mother Patem College in Liberia supported by the Clinton Health Access Initiative (Rowe *et al*., 2010); leadership through a problem solving and participatory strategy (Conn *et al*., 1996); policy development and implementation, such as delivered through the in-service training of health managers and others (Pappaioanou *et al*., 2003); and building leadership competencies in the use and application of monitoring and evaluation, as seen in the development of a common framework for monitoring performance and evaluating progress (World Bank, 2008).

While the majority of cases focus on leadership for learning within provider institutions – i.e. hospitals and other care providers – as an example of the centrality of leadership development to institutional learning at a government level, the Western Cape Provincial Department of Health has adopted a health systems development approach as part of its 2030 vision statement. This has a clear focus on governance, accountability, the functional alignment of activities, and systems resilience. Identified leadership development priorities in the province include:

- Understanding the evolving leadership development needs of key players and teams;
- Understanding workplace realities; and
- Creating an organisational culture that is conducive to continuous systems improvement.

In this example, good leadership is regarded as a critical enabler in embedding the systems approach, and as part of this the Department feels that collective and distributed leadership is required. While strong individual leaders are essential, their efforts must be aligned with organisational goals and effective team functioning is essential.

With respect to suitable ways to develop leadership capacity, the Department's key strategy is experiential on-the-job learning supported by regular reflection, on the understanding that reflection triggers understanding in leaders of themselves as people and in relation to the context in which they work. In addition, the Department actively mandates teamwork and creates team learning opportunities: the intention is to 'take all staff members along on the journey' and model behaviour that challenges those behaviours that entrench the silo mentality. Also reflecting the importance placed on leadership within institutional learning, the Department utilises role modelling through mentors (Rice, 2015).

Human resources for health and systems management competencies

Attention has been drawn to inadequacies in the management of human resources for health, particularly within LMIC settings, and there are significant needs for capacity building in this area (Fritzen, 2007). Interventions to develop institutional learning through components focusing on strengthening health workforce management can have multiple downstream impacts that improve health worker performance and retention.

General activities that contribute to institutional learning in this field include inputs such as: human resources management skills development; maintaining systemic and institutional oversight of health worker competences and performance, such as through the development of institutional mechanisms such as decision support tools, treatment guidelines, and diagnostic algorithms (Horwood *et al*., 2009; Takada *et al*., 2007; Amaral *et al*., 2005) and also through mechanisms to provide direct support to health systems staff (Geissbuhler *et al*., 2006); and the adoption of innovative inputs for the scale-up of health worker training, such as seen in the PROFAE programme in Brazil (Alvores de Silva *et al*., 2007).

Two examples of programmes with a focus on human resources management within health systems include the distance-taught Master's of Public Health programmes

initiated in 2009 and 2010 with the support of WHO and the Bill and Melinda Gates Foundation (WHO, 2010a; 2010b). These programmes build on existing Master's of Public Health programmes offered by lead institutions by introducing specialised courses on health workforce development and management.

Procurement and supply chain management competencies

The development of competencies for the management of key commodities such as medicines, vaccines, and health technologies put in place institutional learning processes related to procurement and supply chain management, as well as improvements to prescribing and dispensing practices (Joynes, 2011).

General activities that can contribute to institutional learning in these two closely related fields include: the joint development of pharmaceutical management training materials; establishing operations research on supply chain management; evaluating effectiveness of skills-building approaches (Woodle, 2000); the development and use of standard prescribing charts for inpatient use; and the use of multidisciplinary teams and medication reviews to reduce medication errors and inappropriate prescribing through feedback (Coombes *et al*., 2009; Kaur *et al*., 2009; Wong *et al*., 2009).

However, it is also noted that this is an area for institutional learning that appears to be largely unmet by formal post-qualification programmes. Strategies to develop human resources in this area include short courses, on-the-job training, supervisory strategies, and regional capacity-building collaborations. That said, it seems there is more scope for structured education programmes in this field. While there are examples of relevant programmes available, such as the University of Dundee's BAPD, delivered to health workers in Eritrea and Botswana, various publications have observed competency gaps in procurement and supply chain management (Waako *et al*., 2009; Matowe *et al*., 2008; Woodle, 2000).

Researcher competencies

The role of research and evidence in contributing to institutional and systemic development and decision making is well is well documented. However, the extent to which institutional learning can take place as a result of research activities is reliant on institutional capacity in the form of skilled individuals, effective systems, and resources to maintain 'learning' and effect change (Watts *et al*., 2003).

Various articles cite the need for capacity development of research skills among health management to integrate operational research into practice and stimulate an evidence-based approach to healthcare policy development and evaluate the impact of policy interventions (Edwards *et al*., 2009). Additionally, beyond the creation of new health knowledge, research opportunities are also seen as important for institutional learning through the motivation and retention of skilled health professionals, as well as for the strengthening of wider institutional health infrastructures, in that quality research and evidence outcomes attract funding and investment (Mullan *et al*., 2010a).

Strategies for institutional change

To build institutional learning, the development of capacity for health systems strengthening through individual or team training on the range of competencies

outlined above needs to be supported by parallel strategies to enable behaviour change for the institutionalisation of improved performance (Cook *et al*., 2010; Watts *et al*., 2003).

The MACH model describes the development of competencies and performance through organisation and instructional theories, distinguishing between two types of capacity development that are needed before performance can be improved. The first type is described as *competency deficiencies*, which can be addressed through training. The second type is described as *work environment deficiencies*, which require managerial and organisational investment and development (Miner *et al*., 2005).

The scenarios frequently associated with work environment deficiencies are commonplace in many LMICs (Wiskow *et al*., 2010). There is evidence to support the MACH model, with various reviews finding that, while training may address competency deficiencies, it does not necessarily translate into effective performance in the health system or improvements in health service delivery or health outcomes. With this in mind, the evidence base does advise that training programmes should take into account the equal importance of the work environment as an enabler of learning for improvement in health outcomes. In general terms, this fits with the systems-based process of health management training that enables the training to improve the performance of health systems by adapting core professional competencies to specific contexts, while drawing on global knowledge to support the process (Frenk *et al*., 2010).

3.3 What are the main different mechanisms through which institutions learn?

As indicated in Section 3.2. above, institutional learning is facilitated through a process that develops key systemic competencies in individuals in an applied professional context that also enables individual and systemic behaviour change. This section outlines the different mechanisms commonly associated with the delivery of institutional learning based on this understanding. As in Section 2 of this study, 'mechanisms' refers to the general frameworks and modalities for the delivery of initiatives seen to contribute to learning, in this case at an institutional level.

Workplace-based learning

Workplace-based learning as a delivery mechanism is seen as essential for enabling institutional learning in terms of a sustained model of improvement in health systems (Doherty and Gilson, 2015). Some of the key principles underlying the use of workplace-based learning as a mechanism for institutional learning include:

- Ensuring that all learning activities are directed toward improving health outcomes and service quality;
- Ensuring that all learning initiatives focus on resolving real-life and context-specific obstacles;
- Ensuring that any learning intervention translates into individual and institutional behaviour change, and is extended to include a diverse range of institutional stakeholders within the working environment;

- Ensuring that all workplace-based learning initiatives are designed to build trust, establish good relationships, and encourage effective communication across the institution; and
- Ensuring that, as far as possible, all learning initiatives within the working environment are team based and interdisciplinary.

(Doherty and Gilson, 2015; Watts *et al*., 2003).

In support of the above, Wuliji (2010) highlights the importance of significant components of work-based training – approximately 80% of any training input – for learning programmes to have an impact in terms of both the attainment of competencies and the application of these through behaviour change. However, she also highlights that the effectiveness of this approach is reliant on a range of additional factors, including: an engaged and supportive working environment; work-based mentor and preceptor schemes to foster team-based exchange; institution-wide participation in the work-based decision-making process; and modes for measurement of progress and/or formal assessment that expect direct engagement with working procedures.

However, Doherty and Gilson (2015) note that, in the context of institutional learning for health systems in LMICs, the style, approach, and venues for such learning are often not well developed or understood.

Team training

A team approach to training, particularly when applied in the workplace, contributes to institutional learning through its approaches in a number of ways.

First, team training provides a common learning experience and contributes to institutional learning by developing a common relationship structure that continues to hold the team together in the professional environment (Watts *et al*., 2003). Through team-based approaches to learning, the members of the team become accountable to one another as individuals and serve to remind one another of what they learned on their course. In time, this translates into team-led accountability between working roles rather than individuals (Doherty and Gilson, 2015).

Second, training delivered through small workplace-functional teams rather than individuals contributes to institutional learning through workplace continuity – team-based skills are not decimated when individual post-holders are transferred, and as a result the associated competencies remain part of the fabric of institutional processes (Doherty and Gilson, 2015).

Third, as highlighted in Section 3.2 above, leadership is a key factor in establishing and mobilising models of institutional learning. Within this, managing the process of teamwork and the interactions between teams of individuals is regarded as a core aspect of both leadership and workplace-based leadership learning strategies. In this regard, team-based training provides the framework within which to develop, mobilise, and apply leadership skills within the institutional context (Doherty and Gilson, 2015).

In the delivery of team training for institutional learning, there are a range of approaches that can be used. However, there is consensus that such teams should normally consist of at least three people, and preferably up to five to seven people. In

addition, the teams should be functional in nature, representing individuals and roles who should be working together to address particular institutional or systemic issues (Doherty and Gilson, 2015; Watts *et al*., 2003). In the context of institutional learning within health, these issues are likely to be associated with one or more of the health systems building blocks identified in Table 3 above (WHO, 2007).

As an example of team-based training in health contexts, Management Sciences for Health trains teams of managers and leaders and more recently has begun to train members of governing boards and community groups. The process of delivery moves through several stages, first involving meeting with any institution's senior managers to consolidate their vision for the facility. The next stage involves working with wider teams to identify the facility's particular challenges, subsequently designing system-specific training programmes in response. Different facility teams might receive different training, usually lasting about two days at a time but followed up by subsequent training sessions, often over a period of between five and eight months. Evidence suggests that the greater the number of teams involved in training at a facility, the greater the number of innovative ideas generated and shared across the institution. Finally, an important part of the institutional learning approach is to celebrate successes achieved by facility teams, as part of a commitment to moving away from a culture of negative accountability and blame (Rice, 2015).

In-service projects

The use of in-service projects for institutional learning can be regarded as an extension of the same principles that underpin both work-based and team-based training. In basic terms, this approach to institutional learning involves teams of individuals who commonly work together, either in an institutional, cross-institutional, or systemic context. These teams collaborate to, first, identify a specific challenge and then design and implement a project to address that challenge and improve service delivery. If a project is not completed successfully, this can also contribute to institutional learning in terms of developing mechanisms for greater resilience as well as identifying some of the wider factors impacting institutional performance (Watts *et al*., 2003; Doherty and Gilson, 2015).

Action-based learning

Action-based learning is a methodology associated with both work-based and team-based training, although it is commonly used to facilitate exchanges in interdisciplinary and inter-institutional contexts. It involves a process whereby a group of people regularly work together to solve their own real-life challenges in the workplace and reflect on the lessons learned through implementation of solutions (Watts *et al*., 2003). Participants take turns in bringing real-life challenges to the group, and through a structured methodology the group helps them to identify a strategy for resolving the problem (Revans, 2011; Watts *et al*., 2003).

Action learning creates a supportive space that encourages reflection and experiential learning (Watts *et al*. 2003). At a local or regional level, action learning teams are also a very effective strategy for contributing to the development of inter-institutional networks' peer support groups, which can continue to operate outside of any specific programme of training, and thereby contribute further to a systemised process of institutional learning (Doherty and Gilson, 2015).

There are obvious parallels to be made between the models and approaches to action-based learning for institutions and those outlined for individuals in Section 2.3 of this study. In addition, there are certain similarities between the principles underpinning this approach to institutional learning and those underpinning the CoP model for individual learning described by Wenger (2002).

Institutional twinning and professional partnerships

The use of models of institutional twinning is an increasingly common practice as a means of enhancing performance and quality in public sector institutions across a range of service sectors. The process of institutional twinning commonly involves a form of institutional mentoring, whereby an institution identified as requiring improvement is paired with a high-performing institution. The purpose of the twinning process is to: enable the sharing of experience, evidence, and practice; work together to identify existing institutional challenges and weakness; collaborate in agreeing next steps, designing and implementing interventions; and monitoring and evaluating progress (Watts *et al*., 2003)

Regarding this mechanism, the literature places a particular emphasis on the interaction between institutional leaders in coordinating and overseeing these processes. However, institutional twinning practices also highlight related activities as part of the overall process, including: inter-institutional peer-to-peer mentoring schemes; inter-institutional team working and job-sharing; and individual periods of secondment and/or regular work placement (Doherty and Gilson, 2015; Watts *et al*., 2003).

In addition to this basic model, institutions might also seek to engage with professional organisations and regulatory bodies (Watts *et al*., 2003). This is of particular relevance in a health context, when looking at institutional learning in terms of addressing issues of holistic workforce development: while public sector staff might move between different institutions over the course of their careers, they still remain with their associations, who have oversight of core professional competencies (Doherty and Gilson, 2015).

In the context of professional partnerships for health policy transfer to LMICs, Jensen *et al*. (2017) identify the range of international agencies who are either directly engaged in or are stakeholders in the policy transfer process. These same agencies are also active in providing professional partnership opportunities, which are designed to support the development of institutional competencies required to enable the policy transfer process. Examples presented in the case studies include:

- presentation of evidence and policy examples from global settings (Bangladesh);
- facilitating exposure visits to other countries (Bangladesh; Rwanda);
- technical assistance to mentor key individuals and support operationalisation of new policies (Bangladesh; Rwanda; Cambodia); and
- funded opportunities for formal study and travel (Cambodia; Rwanda).

However, assessing the effectiveness of these particular approaches in contributing to institutional rather than individual learning in the given contexts requires further analysis.

3.4 What are the main barriers to institutional learning?

There are a range of factors that can act as barriers to effective institutional learning and, as indicated by the findings presented in the above sections, the majority of these are associated with the effectiveness of key functions at institutional level. In general terms, these functions are categorised as follows:

Institutional capacity and autonomy in terms of human resources recruitment and management

As indicated by the centrality of leadership and management, cross-institutional team practices, and interdisciplinary exchange to the processes and practices associated with effective institutional learning, the role of a skilled and competent workforce is key to supporting behaviour change at a systemic or institutional level. However, there can be significant barriers to the recruitment, retention, and management of a skilled workforce, particularly in the context of public sector employment and within LMICs in particular (Doherty and Gilson, 2015).

First, in terms of recruitment, there are frequently only limited cadres of appropriately skilled and qualified staff available in such contexts. Overall, health workforce needs in LMICs are significant, and national or local systems are not in a position to address them (WHO, 2007). Second, in many cases the terms and conditions associated with public sector employment in such contexts can make it difficult for systems to recruit or retain skilled individuals when contrasted with the opportunities available in private sector employment (Ibid.). Third, institutional recruitment within the public sector in many developing country contexts is dominated by centralised government transfer and deployment practices and is impacted by a lack of institutional autonomy. Common practices include government guidelines that nominate individuals for promotion or professional development on the basis of age and length of service, rather than aptitude or potential. Similarly, the frequent transfer or re-deployment of skilled, trained, or promising individuals serves to weaken institutional competencies and significantly undermine the range of reflective and project-led developmental procedures associated with institutional learning (Doherty and Gilson, 2015).

One of the main lessons from past experience internationally is the importance of institutions working with government human resource managers from the point at which a systemic intervention for institutional development is conceptualised. Such engagement can assist institutions in identifying leadership gaps and competency needs, assist with recruitment, and work to support workplace-based learning initiatives (Doherty and Gilson, 2015).

Availability of institutional resources to maintain systems and enact 'learning'

As stated by Miner *et al*. (2005), in order to provide an enabling environment for instructional learning for performance improvement, any institution needs to address both *competency deficiencies* and *work environment deficiencies*. In doing so, there needs to be financial and investment-based resources available that can cover the associated costs. In general terms, these include the costs of:

- training and professional competencies development;

- support to project-based initiatives; and
- support to mechanisms for institutional learning, including action-based learning, institutional twinning, etc.

However, the availability of resources associated with the systemic changes that are one outcome resulting from the work-focused processes of institutional learning is also vital. Without such resources being available in the long term, the effectiveness and impact of any intervention at institutional level is likely to be significantly reduced, and, through issues associated with professional engagement and motivation, is likely to undermine any subsequent initiatives.

In seeking to address this, institutions are advised to pursue sustainable funding models where funding is not entirely dependent on external resources that are only allocated for specific periods. Funding models will vary across different contexts, but Doherty and Gilson (2015) propose a mix of allocations from the institutional budget, corporate social responsibility funding drawn from the private sector, and a range of period-focused investment-based funding from external donors. However, they also acknowledge that, in LMICs, creating a sustainable mix based on this model presents challenges of its own.

Unsupportive policy environments

The ability of an institution or a system to enact institutional learning across the range of processes outlined above is not based purely on internal capacity and resources. The wider policy environment, as seen in terms of either health systems or wider government functioning, is also a key factor. Motivation and capacity within government to support institutional learning through both process and the application of related policy advice (e.g. increased developmental funding, support for competencies development initiatives, etc.) have been found to be key to that institution's ultimate success (Bennet *et al*., 2012; Watts *et al*., 2003).

Within LMICs in particular, government corruption – in terms of both financial and political capital – has been cited as a particular barrier to enabling effective change (Doherty and Gilson, 2015). Conversely, external political pressure (e.g. from donors, development agencies, or international bilateral partners) to rapidly implement change at either institutional or systemic level can also have a negative impact on institutional learning through, for example, inadequate institutional engagement and communication of policy and/or objectives (Tama *et al*., 2017).

In conclusion, strengthening health systems to the point where institutional learning can be effective requires investments in basic care infrastructure and health technologies, human resources training and supply, and appropriate, equitable financing approaches. In addition, the availability of organisationally sound, scientifically credible institutions with some measure of autonomy that can provide continuous technical support and guidance is also vital (Bennet *et al*., 2012).

4 Learning environment

- **What are the characteristics of a good learning environment?**
- **How can an institution create an incentive structure that encourages individual and institutional learning?**

4.1 Introduction

This section discusses, in general terms, how the learning environment can contribute to the effectiveness and impact of learning inputs, as well as the range of factors for institutions to consider when seeking to incentivise both individual and institutional learning.

Drawing on findings presented elsewhere in this study, there is a particular emphasis on the workplace as a learning environment. Within this, this section seeks to summarise the key elements that any workplace is advised to put in place to support the institutionalisation of learning for improved performance. Similarly, in discussing incentives structures, this section draws primarily on findings from previous sections to recommend a range of personal, professional, and work-based motivators that any incentives structure should seek to address.

4.2 What are the characteristics of a good learning environment?

Sections 2 and 3 of this study outline the range of key components and mechanisms associated with effective individual and institutional learning in a health systems context. Within both, there is a particular emphasis on approaches associated with learning within an applied professional context, and ideally situated in an existing working environment. With this in mind, the role of the working environment is key to supporting good learning.

In the first instance, an enabling working environment is important in terms of allowing newly acquired competencies to be put into practice (Wiskow *et al*., 2010; van Lonkhuijzen *et al*., 2010). In support of the wider role of the working environment in facilitating both individual and institutional learning, a recent WHO report states that ‘an attractive and supportive workplace can be described as an environment that attracts individuals into the health professions, encourages them to remain in the health workforce and enables them to perform effectively’ (Wiskow *et al*., 2010: p47).

However, providing institutional support to models of learning that both respond to health needs and enable the institutionalisation of performance is complex. It requires a comprehensive understanding of both the systemic dynamics and factors that influence competencies and of the mechanisms that allow the application of acquired competencies for use within a specific health context. Growing evidence points to the need for learning interventions to be supported by work-based strategies to reinforce behaviour change, recognise performance, and ensure both conducive working environments and the availability of required tools in order to ensure change (Haines *et al*., 2004).

Potter and Brough's (2004) framework, which sets out a hierarchy of needs for systemic capacity development, argues that initiatives focusing on the development of individual and institutional skills and institutional tools cannot be effective without addressing the underlying structures and systems, and ensuring there are adequate human resources and infrastructure facilities to support adoption (Potter and Brough, 2004). This reinforces Miner *et al*.'s (2005) point that certain conditions need to be present before training inputs can contribute in the facilitation of performance institutionalisation.

Therefore, a good learning environment within this work-based setting will also ensure the presence of further systemic mechanisms to support the learning process. In keeping with the findings set out in sections 2 and 3, as prerequisites these mechanisms include: work-based supervision, support, and feedback; mechanisms for peer-to-peer engagement and exchange; work-based learning objectives and context-targeted activities; regular monitoring of outcomes; and scope to influence change at the institutional level (Joynes, 2011).

4.3 How can an institution create an incentive structure that encourages individual and institutional learning?

In discussing work-based incentive structures that encourage learning in both individual and institutional learning, there is a range of factors to be taken into account. Within this, the range of incentives that are associated with individual engagement and professional performance are of particular importance.

Incentives associated with individual personal motivation

First, in the context of individual learning among our defined learner group, any institution is advised to take into account the range of personal motivations that incentivise adult learners to engage in the learning process. Andragogy is based in part on the principles that adults have a readiness to learn prompted by performance needs, are task- or problem-centred in their approach to learning, and have complex internal motivations to learn including self-confidence, self-actualisation, and self-esteem (Knowles, 1985, cited in Milligan, 1997). Three further assumptions of andragogy proposed by Zmeyov (1998) state that: a) the adult learners' life contexts determine their approaches to learning; b) the adult learner has a leading role in determining the course and outcomes of the learning process, including the levels of engagement with required learning; and c) the adult learner and teacher ideally cooperate in the development of all stages of learning, including planning, realisation, evaluation, and improvement of the learning process.

Institutional incentive structures that respond to this range of personal motivations include the provision of training and other performance enhancement mechanisms based on adult learners' self-identified professional needs, as well as the provision of the professional autonomy to implement change (Watts *et al*., 2003). In general terms, such interventions align closely with the range of approaches described in Section 2 (Kirkpatrick and Kirkpatrick, 2006; Dair *et al*., 2014) and Section 3 (Wuliji, 2010; Doherty and Gilson, 2015; Rice, 2015). However, in addition to these, it is also

important to note the value of positive recognition as a further incentive associated with personal motivation (Rice, 2015; Milligan, 1997).

Incentives associated with individual professional motivation

Second, any institution is advised to take into account the range of professional motivators that can incentivise individual learning. Again, incentives in this regard can include a range of initiatives that reflect a number of the key components discussed in sections 2 and 3 of this study. They include: the use of workplace assessment programmes (Dorros, 2006; Rowe *et al*., 2010); the use of workplace mentoring schemes (van Lonkhuijzen *et al*., 2010; Jamtvedt *et al*., 2006); peer-to-peer and team-based exchange mechanisms (WHO, 2009b; Reeves *et al*., 2008; Bandhari *et al*., 2017). However, additional incentivisers for individual learning in a specifically professional context include: incremental salaries and/or professional certification based on demonstrated competencies and professional behaviours (Perrot *et al*., 2010; Wiskow *et al*., 2010); implementation of accountable health management systems (Wiskow *et al*., 2010; van Lonkhuijzen *et al*., 2010; Watts *et al*., 2003); and clear career development paths (Mullan *et al*., 2010a; 2010b).

Further to this, and taking into account the importance of the working environment as a motivator for individual professional development, any incentives structure for learning might also include a range of interventions designed to make the working environment more conducive. Recommended policy options have included: improved work–life balance; the promotion of family-friendly workplace options such as flexible working time (Wiskow *et al*., 2010); improved quality of living and working conditions; and expanded educational opportunities for staff children (Van Dormael *et al*., 2008; Mullan *et al*., 2010a; 2010b).

Incentives associated with institutional motivation

Third, any system is advised to account for the range of motivators that can incentivise institutional learning. As indicated in Section 3, many of the elements associated with effective institutional learning are based on initiatives that enable and support the activities of leaders, managers, and teams of individuals operating at an institutional level. Furthermore, processes of institutional learning and change can only occur through changes in the behaviour, attitudes, relationships, and activities of individuals (Watts *et al*. 2003). In this regard, the same range of incentives described above – particularly those associated with the work environment, plus autonomy and resources for planning, implementation, and behaviour change – can operate as key motivators for institutional learning (Doherty and Gilson, 2015; Dair *et al*., 2014).

There are also a range of motivators that can provide incentives at institutional rather than individual level. These include: recognition of excellence or quality in service provision; professional awards; increments in institutional status (e.g. teaching or mentoring); certification awarding; and awards of development investment funding based on achievements or outputs (Perrot *et al*., 2010).

That said, many of these rely on competition-based models associated with private sector and private–public partnerships, and as such may be inappropriate in a public sector context (Perrot *et al*., 2010). Likewise, issues associated with available resources and political capital in a development context need to be taken into consideration. For example, institutional incentives based around performance will be

more effective if at the same time the autonomy of the providers is reinforced or if there are parallel interventions improving systemic functions or resourcing (Perrot *et al*., 2010).

References

Alvores De Silvia, J. A., Compes, F. E., Hadded, A. E. & Gavao, E. A. 2007. PROFAE: Nursing Workers.

Amaral, J., Leite, A. J. M., Cunha, A. J. & Victoria, C. G. 2005. Impact of IMCI health worker training on routinely collected child health indicators in Northeast Brazil. Health Policy and Planning, 20, I42-I48.

Bennett, S., Corluka, A., Doherty, J., Tangcharoensathien, V., and Patcharanarumol, W. (2012). Influencing policy change: the experience of health think tanks in low- and middle-income countries. Health Policy and Planning, 27(3), 194–203.

Bennett, S., Dalglish, S.L., Juma, P.A., and Rodriguez, D.C. (2015) 'Altogether now… Understanding the role of international organizations in iCCM policy', Health Policy and Planning 30, pp. ii26–ii35.

Billay, D. B. & Yonge, O. 2004. Contributing to the theory development of preceptorship. Nurse Education Today, 24, 566-574.

Bhandari, N., Witter, S., Anderson, I., Jones, A. (2017) Learning for Action Across Health Systems: Landscaping review part 2: What types of institutions currently facilitate learning between countries about improving health systems? OPML, Oxford

Bhoyrub, J., Hurley, J., Neilson, G. R., Ramsay, M. & Smith, M. 2010. Heutagogy: An alternative practice based learning approach. Nurse Educ Pract, 10, 322-326.

Dorros, G. L. 2006. Building management capacity to rapidly scale up health services and outcomes. Geneva: World Health Organization.

Burdick, W., Friedman, S. & Diserens, D. 2010a. Faculty development projects for international health professions educators: Vehicles for institutional change? Manuscript submitted for publication.

Conn, C. P., Jenkins, P. & Touray, S. O. 1996. Strengthening health management: experience of district teams in The Gambia. Health Policy and Planning, 11, 64-71.

Conole, G. 2010. Review of pedagogical models and their use in e-learning. Milton Keynes: Open University.

Cook, D. A., Levinson, A. J., Garside, S., Dupras, D. M., Erwin, P. J. & Montori, V. M. 2010. Instructional Design Variations in Internet-Based Learning for Health Professions Education: A Systematic Review and Meta-Analysis. Academic Medicine, 85, 909-922.

Coombes, I. D., Stowasser, D. A., Reid, C. & Mitchell, C. A. 2009. Impact of a standard medication chart on prescribing errors: a before-and-after audit. Quality & Safety in Health Care, 18, 478-485.

Dair, J., Gilson L. and Cleary, S. (2014) Developing leadership and management competencies in low and middle-income country health systems: a review of the literature. London: RESYST

Davies, H., Hall, D., Harpin, V. & Pullan, C. 2005. The role of distance learning in specialist medical training. Arch Dis Child, 90, 279-83.

Doherty, J. and Gilson, L. (2015) Workplace-based learning for health system leaders: Practical strategies for training institutions and governments. London: RESYST

Frenk, J. E. A. 2010. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. The Lancet, 376.

Fritzen, S. A. 2007. Reorienting Health Ministry roles in transition settings: Capacity and strategy gaps. Health Policy, 83, 73-83.

Geissbuhler, A., Bagayoko, C. O. & Ly, O. 2006. The RAFT network: five years of distance continuing medical education and tele-consultations over the internet in French-speaking Africa. RAFT, Hospitaux Universitaires de Genave.

Haines, A., Kuruvila, S. & Borchert, M. 2004. Bridging the implementation gap between knowledge and action for health. Bulletin of the World Health Organisation, 82, 724-731.

Health Professions Networks, H. R. F. H. D. 2010. Framework for action in interprofessional education and collaborative practice. World Health Organisation.

Horwood, C., Voce, A., Vermaal, K., Rollins, N. & Qazi, S. 2009. Experiences of training and implementation of integrated management of childhood illness (IMCI) in South Africa: a qualitative evaluation of the IMCI case management training course. BMC Pediatrics, 9.

Jamvedt, G., Young, J. M., Kristoffersen, D. T., O'Brien, M. A. & Oxman, A. D. 2006. Audit and feedback: effects on professional practice and health care outcomes (Review). Cochrane Database of Systematic Reviews.

Jensen, C., McPake, B., Jones, A. (2017) Learning for Action Across Health Systems: Landscaping review part 3: Review of international health policy transfer literature. OPML, Oxford

Joynes, C. (2011) 'Distance Learning for Health: What works': A global review of accredited post-qualification training programmes for health workers in low and middle income countries. London: UK Government Department of Health & London International Development Centre, University of London.

Kaur, S., Mitchell, G., Viterra, L. & Roberts, M. S. 2009. Interventions that can reduce Inappropriate Prescribing in the Elderly A Systematic Review. Drugs & Aging, 26, 1013-1028.

Kilminster, S. M. & Jolly, B. C. 2000. Effective supervision in clinical practice settings: a literature review. Med Educ, 34, 827-840.

Kirkpatrick, D.L. & Kirkpatrick, J.D. (2006) Evaluating Training Programs (3rd Edition). New York: Berrett-Koehler Publishers

Kold, D. 1984. Experiential learning: experience as the source of learning and development. Englewood Cliffe N.J.: Prentice Hall.

Laurillard, D. 2002. Rethinking university teaching: a framework for the effective use of learning technologies. London and New York: Routledge Falmer.

Matowe, L., Waako, P., Adome, R. O., Kibwage, I., Minzi, O. & Bienvenu, E. 2008. A strategy to improve skills in pharmaceutical supply management in East Africa: the Regional Technical Resource Collaboration for Pharmaceutical Management. Human Resources for Health, 6, 30.

Merrill, M. D. (ed.) 2002. Instructional strategies and learning styles: which takes precedence? In R. A. Reiser & J. V. Dempsey (Eds.), Trends and Issues in Instructional Technology. (pp. 99-106). Columbus, OH: Prentice Hall.

Milligan, F. 1995. In Defense of Andragogy. Nurse Education Today, 15, 22-27.

Miner, K. R., Childers, W. K., Alperin, M., Cioffi, J. & Hunt, N. 2005. The MACH model: From competencies to instruction and performance of the public health workforce. Public Health Reports, 120, 9-15.

Mullan, F. et al. 2010a. Medical Schools in sub-Saharan Africa. The Lancet, Online.

Mullan, F. et al. 2010b. The Sub-Saharan Medical School Study: Data, Observation and Opportunity. Washington: George Washington University.

O'Brien, M. A., Freemantle, N., Oxman, A. D., Wolf, F., Davis, D. A. & Herrin, J. 2001. Continuing education meetings and workshops: effects on professional practice and health care outcomes (Review). Cochrane Database of Systematic Reviews, 1.

Olmsted, J. L. 2010a. An analysis of student performance benchmarks in dental hygiene via distance education. J Dent Hyg, 84, 75-80.

Pappaioanou, M., Malison, M., Wilkins, K., Otto, B., Goodman, R. A., Churchill, R. E., White, M. & Thacker, S. B. 2003. Strengthening capacity in developing countries for evidence-based public health: the data for decision-making project. Social Science & Medicine, 57, 1925-1937.

Perraton, H. 2010. Keynote Speech: Capability, development, and open and distance learning. DL4H International Workshop. London: London International Development Centre.

Perrot, J., Roodenbeke, E., Musango, L. and Fritsche, G. (2010) Performance Incentives for Health Care Providers. Geneva: World Health Organisation

Potter, C. & Brough, R. 2004. Systemic capacity building: a hierarchy of needs. Health Policy and Planning, 19, 336-345.

Reeves, S., Zwarenstein, M., Goldman, J., Barr, H., Freeth, D., Hammick, M. & Koppel, I. 2008. Interprofessional education: effects on professional practice and health care outcomes (Review). Cochrane Database of Systematic Reviews.

Revans R. W. 2011. ABCs of action learning. Burlington, VT: Gower.

Rowe, L. A., Brillant, S. B., Cleveland, E., Dahn, B. T., Ramanadhan, S., Podesta, M. & Bradley, E. H. 2010. Building capacity in health facility management: guiding principles for skills transfer in Liberia. Human Resources for Health, 8, 5.

Rice J 2015. Team-based learning: cultivating the work, the place, the workers. Paper presented at the international workshop, “Innovation in formal training: workplace-based learning for health leadership development,” Vineyard Hotel, Cape Town, 17-19 August 2015.

Takada, S., Oudavong, B. & Kuroiwa, C. 2007. The successes and challenges of the IMCI training course in Lao PDR. Southeast Asian Journal of Tropical Medicine and Public Health, 38, 178-187.

Tama, E., Molyneux, S., Waweru, E., Tsofa, B., Chuma, J., Barasa, E. (2017) Examining the Implementation of the Free Maternity Services Policy in Kenya: A Mixed Methods Process Evaluation. International Journal of Health Policy and Management, 2017, 6(x), 1–11

Van Dormael, M., Dugas, S., Kone, Y., Coulibaly, S., Sy, M., Marchal, B. & Desplats, D. 2008. Appropriate training and retention of community doctors in rural areas: a Case study from Mali. Human Resources for Health, 6, 25.

Van Lonkhuijzen, L., Dijkman, A., Van Roosmalen, J., Zeeman, G. & Scherpbier, A. 2010. A systematic review of the effectiveness of training in emergency obstetric care in low-resource environments. Bjog-An International Journal of Obstetrics and Gynaecology, 117, 777-787

Waako, P., Odoi-Adome, R., Obua, C., Owino, E., Tumwikirize, W., Ogwal-Okeng, J., Anokbonggo, W., Matowe, L. & Aupont, O. 2009. Existing capacity to manage pharmaceuticals and related commodities in East Africa: an assessment with specific reference to antiretroviral therapy. Human Resources for Health, 7, 21.

Watts, J., Mackay, R., Horton, D., Hall, A., Douthwaite, B., Chambers, R., Acosta, A. (2003) Institutional Learning and Change: An Introduction. ISNAR Discussion Paper No.03-10, October 2003

Wenger, E., McDermott, R. & Snyder, W. 2002. Cultivating communities of practice: a guide to manging knowledge.

Wiskow, C., Albreht, T. & De Pietro, C. 2010. How to create an attractive and supportive working environment for health professionals. Copenhagen, Denmark: World Health Organisation, on behalf of the European Observatory on Health Systems and Policies.

Wong, I.C.K., Wong, L.Y.L. & Cranswick, N. E. 2009. Minimising medication errors in children. Archives of Disease in Childhood, 94, 161-164.

Wonodi, C.B., Privor-Dumm, L., Aina, M., Pate, A.M., Reis, R., Gadhoke, P., and Levine, O.S. (2012) 'Using social network analysis to examine the decision-making process on new vaccine introduction in Nigeria', Health Policy and Planning 27, pp. ii27–ii38.

Woodle, D. 2000. Vaccine procurement and self-sufficiency in developing countries. Health Policy and Planning, 15, 121-129.

World Bank 2008. Monitoring and evaluation working group of the International Health Partnership related initiatives led by, WHO and the World Bank: Monitoring performance and evaluating progress in the scale-up for better health.

World Health Organisation 2007. Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. World Health Organisation.: Geneva.

World Health Organisation 2009. Report on the WHO / PEPFAR planning meeting on scaling up nursing and medical education, Geneva, 13 - 14 October 2009. Geneva: World Health Organisation.

World Health Organisation 2010a. Annex 1: Project Description: Masters Degree with a focus on Health Workforce Development 2009 - 2012.

World Health Organisation 2010b. Annex 1: Project Description: Masters Degree with a focus on Health Workforce Development 2010 - 2013.

Wuliji, T. 2010. Human resources for health training: an overview of training priorities and approaches. DL4H International Workshop. London: London International Development Centre.

Zmeyov, S. 1998. Andragogy: origins, developments and trends. International Review of Education, 44, 103-108.