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PEOPLE
that
DELIVER

MEETING TOMORROW'S HEALTH CHALLENGES THROUGH WORKFORCE EXCELLENCE IN SUPPLY CHAIN MANAGEMENT

**PtD Human Resources for Supply Chain Management
IAPHL Online Discussion Analysis**

An activity of the People that Deliver Initiative

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Executive Summary

Background

Without access to and appropriate use of quality medicines and health commodities, health systems lose their ability to meet the treatment and prevention needs of the patients and clients they serve. The health supply chain workforce is crucial if the health-related Millennium Development Goals are to be attained and health equity achieved. The People that Deliver (PtD) Initiative brings together a range of global stakeholders with expertise in supply chain management to focus on this human resources (HR) issue. Further, the International Association of Public Health Logisticians (IAPHL) is dedicated to improving public health supply chain management (SCM) and commodity security by promoting the professional development of public health logisticians, and provides a mechanism to discuss HR for SCM issues through online discussion with more than 2000 members.

Method

Under the theme of 'Systematic Approaches to Human Resources for Health Supply Chains' three content experts were asked to each prepare a two page evidence brief addressing one of the following themes:

- i. **HR as a barrier to effective health supply chains**
- ii. **Taking a systematic approach to human resources for supply chain management**
- iii. **Pre service education and continual professional development as a critical component**

Over a four week period (14th April – 16th May 2014), each of the three themes were presented to the IAPHL community by one of the moderators. The two page evidence briefs were used to provide background information with each moderator using seeding questions to promote asynchronous discussion. Moderators were encouraged to engage in the discussion to promote information sharing, answer questions raised, and provide further information consistent with the flow of the discussion. At the conclusion of the four week period each moderator compiled descriptive statistics summarizing the contributions to their theme and developed a summary based on manual thematic analysis of the contributions.

Results

With 103 contributions from 24 countries, this online discussion represents a variety of viewpoints from people occupying a variety of positions within the health logistics and supply chain sector (pharmacist, program manager, program director, supply chain consultant, etc.). Engagement across the three themes of the discussion was relatively consistent noting most engagement with theme 1 (HR as a barrier to effective health supply chains), and least engagement with theme 2 question 3 (Taking a systematic approach to human resources for supply chain management. If you have conducted the HR for SCM Assessment, what did you learn?).

The following sub themes were revealed following analysis of the contributions to each theme:

Theme 1: HR as a barrier to effective health supply chains					
Lack of supply chain strategy	Limited focus on components of supply chain management	Unclear lines of responsibility	Insufficient education	Lack of supply chain resources	Limited focus on human resources

Theme 3: Pre-service education and continual professional development as a critical component				
Use a needs based approach	Are current approaches adequate?	Is general SCM education relevant?	In service training engaging universities	Inadequate political understanding

Theme 2: Taking a systematic approach to HR for SCM					
Need for SCM leaders and strategies	Call for Professionalization	Define and support the SCM workforce	Multiple entities engaged in SCM	Currently weak advocacy and policy	Aspects of HR for SCM are often siloed

Discussion

This is the first time an interactive online discussion was conducted on the IAPHL platform engaging the topic of HR for SCM. With over 100 posts from 24 countries during the period of the discussion, it is clear that this is a topic of interest to the global health logistics and supply chain community. The focus of this discussion has been on HR, a key crosscutting theme through the capacity development pyramid. It should be noted that for health supply chains to be sustainable a focus is also required on the other inputs, namely; equipment, infrastructure and system design.

As the international community moves to help countries meet the post 2015 universal health care agenda, it is clear that health logistics and supply chain will be a key activity. More international and country based action will be needed requiring collective and coordinated action with a focus on human resources for supply chain management a key pillar for success.

Conclusion

The IAPHL online discussion forum has proven to be an ideal place to conduct discussions relating to issues affecting health supply chains. In this discussion there has been clear consensus that HR issues are a key barrier to further development in health supply chains, with a focus on education a leading factor. Further, education is but one of a series of interrelated factors that need to be considered for HR to be systematically strengthened. A focus on HR within SCM is one of a number of inputs to consider for sustainable health supply chains to be a reality in low income environments, but it is often the input receiving the least attention. It is hoped that the evidence synthesised in this report will further encourage systematic country approaches to HR for SCM, with PtD acting as a key Initiative offering its support.

Acknowledgements

This activity of the People that Deliver Initiative was co-ordinated by Andrew Brown, the Executive Manager of PtD. This activity was made possible by the co-operation of the International Association of Public Health Logisticians through David Paprocki, Technical Advisor, USAID | DELIVER PROJECT and Chris Wright, PtD Advocacy and Knowledge Management Working Group Lead (John Snow, Inc.). PtD would like to thank Pamela Steele (PtD Research Working Group Lead – Pamela Steele and Associates Ltd) and Erin Hasselberg (PtD Technical Working Group Lead – John Snow, Inc.), who worked with Andrew providing their collective expertise, as both moderators for the discussion, and authors for this report.

Acronyms

CHAI	Clinton Health Access Initiative
DFID	Department for International Development
GAVI	GAVI Alliance
GPRHCS	Global Programme to Enhance Reproductive Health Commodity Security
HR	Human Resources
HRH	Human Resources for Health
HSS	Health System Strengthening
IAPHL	International Association of Public Health Logisticians
MDG	Millenium Development Goals
MoH	Ministry of Health
NGO	Non Governmental Organization
PID	Project Information Document
PtD	People that Deliver
RMNCH	Reproductive, Maternal, Newborn and Child Health
SCM	Supply Chain Management
SMART	Specific, Measurable, Achievable, Realistic, and within a Timeframe
SWAp	Sector Wide Approach
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
USAID	US Agency for International Development
WHO	World Health Organization

Background

Without access to and appropriate use of quality medicines and health commodities, health systems lose their ability to meet the treatment and prevention needs of the patients and clients they serve. WHO estimates that one third of the world's population does not have access to quality essential medicines. Human Resources (HR) for Supply Chain Management (SCM) is often a neglected area when considering development. The health supply chain workforce is crucial if the health-related Millennium Development Goals (MDGs) are to be attained and health equity achieved.

The People that Deliver (PtD) Initiative brings together a range of global stakeholders with expertise in supply chain management (SCM), including governments, international organizations, donors, NGOs, technical agencies, academic institutions, professional associations and the private sector. The PtD mission is “to build global and national capacity to implement evidence-based approaches to plan, finance, develop, support, and retain the national workforces needed for the effective, efficient, and sustainable management of health supply chains.”

The International Association of Public Health Logisticians (IAPHL) is dedicated to improving public health SCM and commodity security by promoting the professional development of public health logisticians. This open access association supports health logisticians and supply chain managers worldwide by providing a community of practice, where members can network, exchange ideas, and improve their professional skills. At the time of this discussion IAPHL had a membership of just over 2000, representing various cadres and organisations from over 100 countries.

In 2012 and 2013 PtD published a literature review, situation analysis, global survey and country assessment summary as background research supporting the need for further focus and investment in HR for SCM in the health sector of low income countries (<http://www.peoplethatdeliver.org/content/research-material>). In March 2014 the GAVI Supply Chain Strategy People and Practice Evidence Review was published (<http://www.peoplethatdeliver.org/news/gavi-supply-chain-strategy-people-and-practice-evidence-review-march-2014>). One mechanism to share and compare these findings and additional information, was to host an online discussion via the IAPHL listserv to promote discussion and obtain feedback on HR for SCM issues.

This online discussion via IAPHL was designed to interact with a range of health supply chain stakeholders in a variety of country contexts to share insights and approaches being used by PtD, and to learn more of the experiences of colleagues in the field. The discussions shared add further validation to the GAVI evidence review and continue to highlight the ongoing need for all health logistic and supply chain stakeholders to work together systematically, to improve this aspect of health supply chains.

Method

Under the theme of ‘Systematic Approaches to Human Resources for Health Supply Chains’ three content experts were asked to each prepare a two page evidence based background document addressing one of the following themes:

- i. **HR as a barrier to effective health supply chains**
- ii. **Taking a systematic approach to human resources for supply chain management**
- iii. **Pre service education and continual professional development as a critical component**

Over a four week period (14th April – 16th May 2014), each of the three themes were presented to the IAPHL community of practice by one of the moderators. The two page evidence briefs were used to provide background information to the theme with the moderator using seeding questions to promote asynchronous discussion on the theme over a ten day period. Moderators were encouraged to engage in the discussion to promote information sharing, answer questions raised and provide further information consistent with the flow of the discussion.

At the conclusion of the four week period each moderator compiled descriptive statistics summarizing the contributions to their theme and developed a summary based on manual thematic analysis of the contributions. The three summary documents were then compiled into a final report. An overview of each evidence brief and seeding questions appears below, with the fully referenced evidence briefs appearing in the Appendices of this report.

Theme 1: Evidence brief: HR as a barrier to effective health supply chains

HR as a barrier to effective health supply chains

Our discussion for week one focuses on the challenges for the public health supply chain workforce. This week we will take an in-depth look at how your greatest SCM workforce challenges impact the functioning of health supply chains and ultimately health programs. During week 2 and 3 of our discussion, we’ll hear more about ways to address these challenges in a systematic way.

The literature reports that immunization supply chain functions are frequently performed by untrained health workers for the supply chain function, such as pharmacists, clinicians and drivers in developing countries. Many authors allude to this point. Additionally, it is stated that there are few specific SCM roles, and that it is difficult to fill even these due to the high demand relative to the supply of suitably skilled individuals. This can result in high vacancy levels in SCM positions, leading to underqualified staff performing these roles on an ad hoc basis.

Authors allude to lack of supply chain training as a central human resource for health (HRH) as an issue in developing countries. It is suggested that the lack of professional status for SCM in many developing countries leads to lack of inclusion of a devoted SCM curriculum within the healthcare curricula which obscures the importance of SCM in healthcare delivery. The Global Survey for Public Health Logisticians found that 57% cited lack of training as a major problem and that only four of the eight developing countries researched offer pre-

and in-service SCM training of staff. The quality of the few training programs that do exist, though, is also considered questionable. Materials are often inadequate, class sizes too large, materials are not adapted to local contexts and the skills that are learned are not consolidated formally following each session. The training that is received is also highly differentiated in terms of quality and geographical evenness.

Although in its SCM country assessments People that Deliver writes that seven out of eight countries surveyed have dedicated SCM roles, it also notes that only half said that they believed policymakers understood the relationship between commodity security and human resource strengthening; and that as one moves further down the supply chain, the SCM responsibilities of staff become more confused. Having dedicated SCM roles can increase the capacity for empowered decisions to be made. However, in Malawi, for example, the procurement and supply management (PSM) system for anti-retrovirals (ARVs) is controlled by only a few central MoH staff who devote only part of their time to SCM.

The relationship between performance monitoring, accountability and recognition is drawn out by the authors. If performance is not monitored, then the incentive to work to the best of one's ability is partially removed. The authors suggest that SCM should be recognized as a profession with clear functions, so that performance can be monitored so as to improve it. The need for adequate financial and non-financial requirements to be met in order to encourage staff satisfaction and satisfactory work is stated. Although adequate remuneration is a key factor in retaining staff and improving performance, so are non-financial factors such as 'living and working conditions, training, feedback and advancement opportunities.'

It is clear from the author's research regarding supply chain practices that there are a number of constraints on developing country supply chains that lead to high levels of stock wastage and stock-outs. Empirical data is also deployed to illustrate this. It is estimated that up to '50% of vaccine doses are wasted by not being administered, and many more doses are exposed to freezing temperatures that can reduce their potency,'.

Theme 1 Seeding questions

The following seeding questions were used to promote discussion of theme 1:

- 1. What workforce issues affect your public health supply chain and how do they impact the availability of goods?*
- 2. Who are responsible for supply chain functions and for decision making at each level of your public health supply chain?*
- 3. How are those with responsibility within the public health supply chain equipped to fulfil their supply chain responsibilities?*

Theme 2: Evidence brief: Taking a systematic approach to Human Resources for Supply Chain Management

Taking a systematic approach to Human Resources for Supply Chain Management

In the previous week's discussion Pamela Steele identified critical challenges that public health systems face with regard to the supply chain workforce. This week we will discuss how to take a 'systematic approach' at addressing those challenges, including examining the five human resource building blocks¹. These building blocks provide a comprehensive approach to assessing and managing human resources. Together, they inform the most effective ways to attract, motivate, develop, and retain new and existing talent needed to expand supply chain performance.

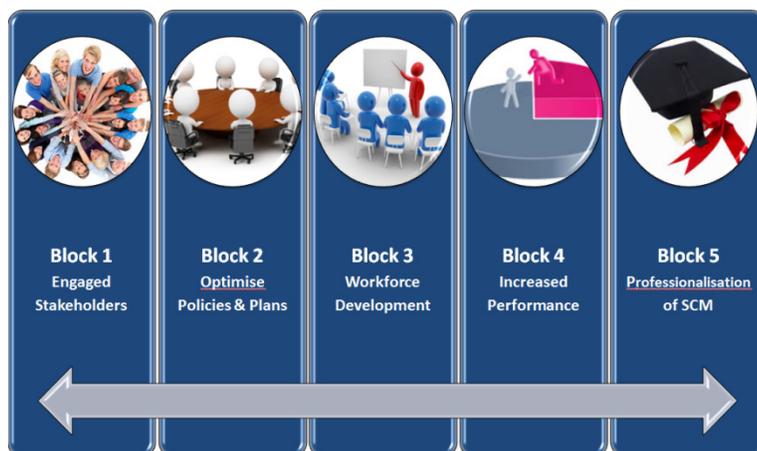


Figure 1. The five building blocks considered in a systematic approach to HR for SCM

As our discussion will only skim the surface of each individual building block, we are providing these brief descriptions and example components of each building block in the table below to help frame our conversation.

In addition to discussing the building blocks, we will also have an in-depth look at an assessment guide and tool that, when implemented, provides a comprehensive view (and a series of diagnostic dashboards for a visual output) of the state of human resources in an organisation's supply chain and how these results can be used to advocate for strengthened HR for SCM. Similar to last week, throughout our discussion, we will reference country applications and examples in order to ground our discussion in real-world experiences.

¹ As developed by CapacityPlus (CapacityPlus 2011) and modified by the USAID | DELIVER PROJECT (2013) ; *CapacityPlus*. 2011. *Serving Health Workers, Saving Lives*. (accessed September 9, 2011). http://www.capacityplus.org/sites/intrah.civactions.net/files/resources/CapacityPlus_Brochure_0.pdf

Table 1. The five HR for SCM building blocks with definitions and examples.

HR Building Block	Summary definition	Example components
1. Engaged Stakeholders	Individuals/groups who provide technical leadership and advocacy in the field of supply chain management (SCM), as well as human resource management.	SCM HR Champion, Commodity Security or HRH Working Groups or Country Coordination and Facilitation .
2. Optimise Policies & Plans	Policies, plans, and associated standard operating procedures (SOPs) that support human resource capacity development and management.	Human Resource Information Systems (HRIS), financing, SCM SOPs, HR Policies
3. Workforce Development	Initiatives that focus on identifying and building a robust supply chain workforce. Including pre-service education and in-service training	Job descriptions, recruitment , competency framework , pre-service and in-service education
4. Increased Workforce Performance	Initiatives that identify and enhance supply chain workers' abilities to successfully execute job responsibilities.	Retention and performance incentives , supervision , mentoring, coaching, and task-shifting .
5. Professionalization	A process used to make or establish supply chain roles, or set of responsibilities or competencies, as a profession.	SCM certifications from CIPS , APICs or CILT , professional associations such as IAPHL , Resolog , etc.

Theme 2 seeding questions

The following seeding questions were used to promote discussion of theme 1:

1. *Who is responsible for allocating resources to human resources for SCM in your country/organization? and/or, Who in your country/organization advocates for strengthened human resources in supply chain management? What policies plans have they championed?*
2. *Which of the building blocks poses the greatest challenge for your country/organisation? Why? Survey Monkey was also used to encourage answers to this question <https://www.surveymonkey.com/s/IAPHLHR4SCMQ2>*
3. *If you have conducted the HR for SCM Assessment, what did you learn? What were the results? What are the next steps? Or if you haven't conducted the HR for SCM Assessment, now that you've been introduced to the building blocks and the importance of a systematic approach, do you think this assessment would be of benefit to you? Why? What might be your next steps to get it implemented?*

Theme 3: Evidence brief: Pre-service education and continual professional development as a critical component in HR

Pre-service education and continual professional development as a critical component in HR

In the previous week's discussion Erin Hasselberg helped us explore the five building blocks that make up a systematic approach to HR for SCM and how they can be assessed. This week we focus on pre-service education and continual professional development as part of **Building Block 3: Workforce development**. This building block also covers initiatives that focus on identifying and building a robust workforce, including recruiting, competency modelling and development.

Supply chain management education initiatives need to be considered in the context of other workforce development requirements, as well as the other building blocks necessary for effective HR management for them to be effective. It is important to avoid the 'black hole' of training.

A 'needs-based' approach to education that considers the competencies required by specific cadres of staff, and the local context over the long-term is the most sustainable and potentially the most effective.

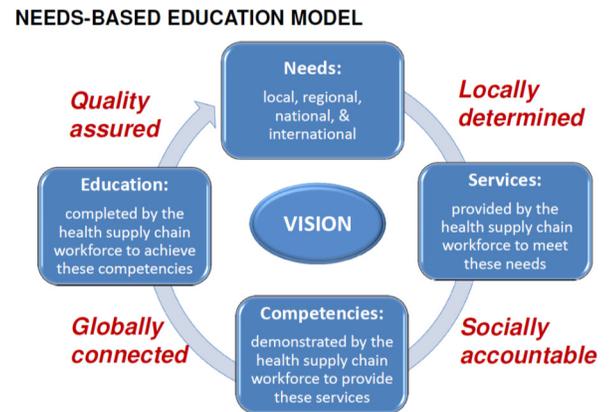


Figure 2. Needs-Based Education Model modified from the WHO-UNESCO_FIP Pharmacy Education Taskforce

Quick hints for pre-service education

(education that is the minimum that defines a profession or cadre)

- Engage with local academic institutions, government and logistics and supply chain experts
- Consult WHO's education guidelines for health professionals: <http://whoeducationguidelines.org/>
- Consider how the quality of the education will be maintained
<http://www.fip.org/files/fip/PharmacyEducation/Global%20Framework%20.pdf>

Quick hints for continual professional development including in-service education

(education undertaken by personal while acting in their professional role)

- Engage with local academic institutions, government, and logistics and supply chain experts
- Consult these guidelines for in-service training: <http://www.hciproject.org/publications/global-improvement-framework-health-worker-service-training-guidance-improved-effective>
- Consider a model that links in-service education to pre-service or post graduate education

Theme 3 seeding questions

The following seeding questions were used to encourage discussion around theme 3:

1. What pre-service and in-service education for logistics and SCM occurs in your country?
2. What are the barriers to improving health logistics and SCM education and training in your country context?

Results

Descriptive statistics

The following table provides an overview of the degree of interaction during the discussion by describing the number of ‘posts, ‘contributors’ and ‘countries’ represented.

Table 2. Descriptive statistics summarizing IAPHL HR for SCM discussion contributions

	Number of posts	Number of different contributors	Number of countries represented
Theme 1 Theme 1 evidence brief: HR as a barrier to effective health supply chains			
Question 1	13	11	10
Question 2	16	12	10
Question 3	10	9	8
Question 4	8	7	5
Theme 1 averages	Ave 12 (8-16)	Ave 10 (7-12)	Ave 13 (5-10)
Theme 2: Taking a systematic approach to human resources for supply chain management			
Question 1	11	9	7
Question 2	4	2	2
Survey Monkey for Q2	17	17	12
Question 3	1	1	1
Theme 2 averages	Ave 11 (1-21)	Ave 10 (1-19)	Ave 7 (1-14)
Theme 3: Pre service education and continual professional development as a critical component			
Question 1	8	8	7
Question 2	15	15	9
Theme 3 averages	Ave 12 (8-15)	Ave 12 (8-15)	Ave 8 (7-9)
TOTAL	103 contributions Ave 11 per question (1-17)	Ave 10 different contributors per question (1-17)	24 countries Ave 8 countries per question (1-12)

With 103 contributions from 24 countries, this online discussion represents a variety of viewpoints from people occupying a variety of positions within the health logistics and supply chain sector (pharmacist, program manager, program director, supply chain consultant, etc.).

Engagement across the three themes of the discussion was relatively consistent noting most engagement with theme 1 (HR as a barrier to effective health supply chains), and least engagement with theme 2 question 3 (Taking a systematic approach to human resources for supply chain management. If you have conducted the HR for SCM Assessment, what did you learn?).

Table 3. List of countries represented by discussion contributions

Country			
Cameroon	Fiji	Namibia	Tanzania
Canada	Ghana	Nigeria	Togo
Democratic Republic Congo (DRC)	India	Pakistan	United Kingdom (UK)
Denmark	Lagos	Papua New Guinea	United States of America (USA)
Egypt	Liberia	Sierra Leone	Zambia
Ethiopia	Mozambique	Sudan	Zimbabwe

Thematic analysis

Each of the three themes were analysed using a simple process of ‘manual thematic analysis’. This resulted in a set of sub themes for each of the three discussion themes. The results for this analysis are reported under each theme with significant quotes noted (quotes are referenced by each moderator using initials or numeric notation corresponding to participant responses in the discussion). The full transcripts of all the discussion appears in the Appendices of this report.

Theme 1: HR as a barrier to effective health supply chains

The thematic analysis of theme one generated six subthemes as noted in Figure 3.

Theme 1: HR as a barrier to effective health supply chains					
Lack of supply chain strategy	Limited focus on components of supply chain management	Unclear lines of responsibility	Insufficient education	Lack of supply chain resources	Limited focus on human resources

Figure 3. The six sub themes from theme 1 ‘HR as a barrier to effective health supply chains

Lack of supply chain strategy: unclear patterns in decision making responsibilities

A common issue arising from the respondents’ comments is a diffuse lack of Supply Chain strategy at a system/national level. One of the main reasons for the lack of an overarching Supply Chain Strategy and then of a supply chain system is related to the very recent appreciation of the discipline at higher levels of decision making. The feeling arising from the responses is that at Governmental level there is limited understanding of the implications of supply chain management on the success of a health system (AV; MS) as the governmental officers ‘*may feel that these tasks are just administrative*’ (AB). The lack of supply chain strategy is sharply summarised by (BMH) who underlines how the responsibility for the system is not clearly allocated:

'Who is responsible for the overall functioning of your public health supply chain? Is there anyone who is responsible to ensure that the entire supply chain system is functioning adequately?' (BMH)

(PT) suggests that *'The Ministry officials of country need to be sensitised on how this operational gap is effecting overall coverage and then customized solution needs to be designed as per priority'*

Respondents (A) and (GW) suggested the increased focus on health supply chain rather went towards enhancing technical competencies, such as *'upskilling of DRs, nurses, improve facility'* in the absence of an appropriate and effective logistics system. This remark is aligned to the common practice to focus more on the contingency and disease programs rather than the whole supply chain system (AK).

However, one of the respondents reported a recent development in this direction:

'In Zambia in particular a National Supply Chain Strategy (NSCS) has been drafted and the Ministry of Health in collaboration with USAID and other key partners are taking the lead in ensuring that it gets implemented.' (LK)

Limited focus on components of supply chain management

A common understanding among the respondents is the fundamental underestimation of the managerial component of supply chain, not only at national level, as suggested above, but also at the district and local levels. According to (MS) the *'evolution of the supply chain function (...) has been such that the function is seen almost entirely as an administrative one, requiring little or no specific training and, therefore, further HR investment'*; while (GW) suggests supply chain functions are still *'very much labour intensive, from top to bottom'*.

A lack of resources might cause health workers to perform logistics tasks which are neglected by others:

'Oftentimes, the district does not have the resources (personnel, vehicle, and fuel, per diem) to ensure the commodities are delivered to the health centres. In this situation, the system becomes more ad hoc, depending on the motivation of the health worker to arrange transport and time away from the health centre to fetch medicines from the district level. Fetching medicines from the district is out of the scope of work for the health worker but is necessary for the functioning of the health centre.' (WP)

(NB) sharply summarises the root cause of the underestimation of the SC function due to bureaucratic and political interests, lack of accountability among SCM professionals and good leadership:

'We have been investing billions of money in improving availability and access to essential drugs and commodities by procuring these, but putting peanuts for its management including that of investing in strengthening warehouses and strengthening HR component (training & capacity building on SCM, strengthening monitoring mechanism, creation of special cadres of SCM professionals, attractive package etc.). As per my experience in PSCM in the context of India, this area has always been a neglected area due to lack of politico bureaucratic interests, lack of accountability in the part of people managing SCM and good leadership.'

(RN) extends this view by stating how the managerial aspect of SC has been largely disregarded:

'Health supply chain management requires both technical skills and managerial skills. Technical skills because you have to understand the commodities you are dealing with and managerial skills to plan and manage the resources - money, commodities, efficiencies in the system etc.'

It becomes very relevant to understand where to position supply chain professionals along the system to enhance the effectiveness of programs. (MS) wonders *'how many independent SCM profile are at strategic decision level'*. A comment from (GW) opens another very relevant aspect related to education, which will be covered below: the integration at central level with local universities to include SC related topic into the curriculum of health workers.

Unclear lines of responsibility

Given the limitation expressed in the first two points in terms of lack of supply chain strategy at systemic level and misconception of SC competencies, respondents were asked to locate SC responsibilities in their existing health programs.

As mentioned previously, at National level there is a diffuse feeling that *'executives are not equipped with the right understanding of SC'* (A) and it cascades down on all the lower levels of professionals and workers. At Central/District Medical Store remarks suggest some enhanced SC professionalism has been instilled as they are directly responsible for the SC function at health facilities (AV). If these responsibilities were allocated to people *'not equipped to execute, now these jobs are given to the right professionals like biomedical engineers and laboratory technologists'* (DT).

However, this is not happening evenly across the globe as (NB) suggests that even if at state level some actions have been taken, they *'could be further strengthened by engaging young pharmacy graduates/science graduates etc with proper training on procurement and supply chain management (PSCM) & quality assurance (QA) to manage the district stores including managing forecasting, storage, distribution, ensuring QA, rational use, etc.'*

At the local level there are also discrepancies among the respondents. (AV) expresses a lack of clarity in the responsibility vs execution at health facility level:

'The other question that needs to be asked is who takes ownership of the supply chain activities at health facilities? How can the ownership and responsibility be given to the health facility level managers?'

While (BO) reports *'Supply Chain professionals are responsible for the ordering, expediting, receiving, customs clearance, storage and distribution to the final beneficiaries in my organisation'*, (AP) and (AK) suggest pharmacists, pharmacy assistants and nurses are managing all SC activities at the health facilities, although (A) believes they are *'not equipped with the right numbers'* leading to poor management due to lack of formal training (NB).

Pharmacists have been defined as *'the right people in the wrong place'* (PdV) as they *'have been regarded as the SCM specialist when actually we did not learned this at school'* so much that *'No one believes in us anymore and it affects the whole moral and image of the profession.'* (AV)

(LM) suggests the health system does not need a further cadre of professionals outside the pharmacy framework: *'The solution does not only lie in creating a new SCM cadre outside the pharmacy framework. Pharmacists can still form the pivot point around which SCM professionalization is centred.'*

This position is supported by (DT) according to whom including new courses in pharma degrees could be enough: *'Recently, introduced course like pharmacoconomics also enables pharmacists to make informed decision by doing/using cost-minimization analysis, cost-benefit analysis, cost-effectiveness analysis and cost-*

utility analysis. During the past nine years, pharmacists' curriculum has changed and so does their contribution in health the supply chain management too.' (AV) presents a different view as a pharmacist: *'I for one would like to see the shift in the paradigm to SC experts to save the pharmacy profession'*.

From the variety of opinions offered there is not clear agreement on the way forward – creating an extended health professional figure with some SC training or including supply chain professionals alongside the health professionals and at which level. The next paragraph will provide some evidence of the effectiveness of some education programs.

Insufficient education

Various experiences have been documented by participants in this discussion, helping us to understand at which level education on SCM should be included and the target the education should be directed towards. As commented previously, health workers and in particular pharmacists have been responsible for SC responsibilities at least at local level. For this reason, their curriculum has been changing in recent years according to the respondents. (SA) account for Ethiopia:

'In the Ethiopian health care system pharmacists do the majority of health care supply activity. In their undergraduate courses there is no sufficient topics covered. Currently, the government understood these problems and has started a master's degree for pharmacists at Jimma university - MSc at pharmaceuticals supply chain management.'

(DT) recognises the effort of including SCM in Pharma courses in Ethiopia and reports its initial effects: *'As a result, I am observing improvements in the health SCM practice but I feel that the course coverage is still insufficient.'* However, both (PT) and (LS) agree that SCM topic should be included in Pharmacy / Nursing courses and it might have a positive outcome.

(GW) reports the effect of including SCM topic in health professionals curricula in Papua New Guinea with very limited tangible results in terms of increased efficiency and effectiveness: *'Experience here in PNG, shows that that, over the past 10 years, with grants from GFATM and UNFPA, for example, the country has trained a lot of health workers on supply chain management, especially at the provincial and district level and till today, there is nothing to show, our health supply chain here still performs below par. One point that comes out very clear from this is that, we have been spending too much money and time on training the wrong cadres of health workers such as nurses, who have other primary duties and spend very little to no time on supply chain management.'*

(LM) suggests all levels of the SC should be covered: *'The solution should not only lie in creating a highly qualified cadre (MSc in Supply Chain). Professionalization of SCM should encompass all chores along the chain from the central to the periphery (lower qualification cadres).'* (PK) also includes officials and donors as it would give them a better understanding of what is needed.

The perception however is that SC professionals exist but the recruitment process keeps them outside the system. For instance, (PK) comment:

'Actually the cadre of professionals you are looking for already exist and could be used. The degree has existed for years. But it takes that it is recognized as a skill worthwhile and for the last 10 years institutions such as GFATM and various projects has insisted that drugs supply chains must be managed by pharmacists and doctors,

a master in Supply Chain Management simply do not count if for example you want to work as LFA on the PSM. So, if a different skill set shall come in play, the need must be recognized at these institutions. Else you will be considered less qualified than any pharmacist or medical doctor.'

A similar remark from (RN) mentions how the non-inclusion of managerial skills in job audits has a negative effects on the functioning of supply chains: *'I was shocked when recently the government of Kenya was doing job audits that they were not promoting pharmacists with MBAs but rather those who had MSc in Pharmacy related disciplines. This then gives pharmacists no incentive to pursue management related causes yet that is what they need to be effective health supply chain managers. In the absence of recognition of such skills set, we find that the supply chain becomes disjointed.'* However, both (MH) and (DT) still believe the inadequate number of trained SC professionals is the reason why pharmacists have to take over and cover their role.

Lack of supply chain resources

The lack of supply chain strategy filters down and it creates inefficiencies and below the bar performance. According to (RN), this process is exacerbated by task segregation. In fact, where pharmacists are in charge of forecasting, quantification, and quality assurance, other cadres deal with procurement and resource mobilization. This leads to a lack of harmonization where the single pieces are managed in silo. The task segregation and the silo mentality have a number of effects. Some of them have been raised by the respondents. For instance, health workers complete requisition forms but they usually receive less than requested with no explanation (WP). (KM) reports the view from the regional or district level where workers receiving orders believe the figures are only a guessing and they are not based on any evidence. It creates a bias along the supply chain causing stock outs and inefficiencies.

Data represents a very relevant issue and health supply chains at the moment experience a mismatch between the supply and the demand. Many respondents, among whom (AR) reports a lack of resources in terms of proper inventory management and information systems and related training. (RN) reports the Kenya experience, where they have developed an eSCM system to auto aggregate facility data at each tier level to be viewed in real time by decision makers. She recognises the challenge is now the adoptability of the system across the national supply chain.

The adoption of Vendor Management Inventory (VMI) has been suggested by (RN) as a way to overcome the inefficiencies in having time and calculating the right figures at health facilities level. It is a very common tool used in commercial supply chains and its implementation could benefit the overall supply chain.

(LK) makes an interesting link between the lack of visibility and the effectiveness of HR measures:

'As long as the supply chains we manage are not visible and operate in isolation i.e lower level health facilities not looking at the bigger picture of the SC, no tangible benefits shall be observed even if we beef up HR.'

Limited focus on human resources

The underlying perception among the responses collected is that when it comes to the SC functions, they are in the realm of informality and on ad hoc basis. This leads to lack of accountability (MS), inability to advocate for budget requirements (AK; MS), and a diffuse shortage of trained professionals due to migration towards the commercial sector (LS). In fact, in condition of lack of clarity of the boundaries of the SC function, salaries are not

competitive and being specialised in SC does not always represent a winning factor. More scientific (pharma) competencies are preferred even at managerial level. The above mentioned limited understanding of SC issues – hence the lack of strategy – at executive level is seen as a limitation in defining an appropriate remuneration level for SC professionals.

(MS) expresses the informality as follows: *‘Whatever (SC) responsibility one assumes or is assigned to us, we should always ensure this is clearly documented in a job description, and aligned with the overall organizational goals and related work plans’*. (AR) spells out how HR practices can support the alignment between the four principle phases of Selection, Procurement, Distribution and Use. This comment is aligned to the silo mentality described above. (GW) reinforces the centrality of HR in his experience in Papua New Guinea: *‘HR particularly in Health Supply Chains is central to achieving the whole PSM (procurement and supply management) cycle goals and necessary for improving overall quality of health care. In developing countries like here in Papua New Guinea (PNG), where supply chain functions are still very much labour intensive, from top to bottom, the placement of appropriately trained supply chain individuals at critical points of the supply chain becomes very necessary.’* Training and education are paramount to overcome these issues, if aligned to a new awareness of how supply chain can contribute to the efficiency and effectiveness of health programs.

Theme 2: Taking a systematic approach to human resources for supply chain management

The thematic analysis of theme 2 generated six subthemes as noted in Figure 4.

Theme 2: Taking a systematic approach to HR for SCM					
Need for SCM leaders and strategies	Call for Professionalization	Define and support the SCM workforce	Multiple entities engaged in SCM	Currently weak advocacy and policy	Aspects of HR for SCM are often siloed

Figure 4. The six sub themes from theme 2 ‘Taking a systematic approach to human resources for supply chain management

Need for SCM leaders and strategies

Participants emphasized that there is both a need for SCM champions as well as medium-to-long term HR and SCM strategies in order to strengthen the SCM workforce. Without a strong political champion supported by technical experts the SCM workforce will continue to be marginalized.

The experience shared by Ghana demonstrates that a high level of strategic planning is possible but requires coordination. (1.1) *‘...In my Ghana experience, the allocation of resources lies in the policy direction by the Policy, Planning, Monitoring & Evaluation (PPME) Division of the Ghana Health Service (GHS). But this is done in consultation with Supplies, Stores and Drug Division (SSDM) of GHS. As the main body responsible for supplies in the service, the SSDM champions the policies that are put in place based on the medium to long-term strategy the service and the government have in place. The policy plan that has been championed by the division with support from USAID/DELIVER Project is the Scheduled Delivery in Ghana’*

SCM is a theme that runs across health programs. Health programs often do not include health logistics and supply chain leaders in their planning which contributes to supply issues. (2.7.1) *‘This is as a result of how SC is perceived at the higher level in planning processes of most programs and projects. It’s an established fact that logistics is embedded in all programs and projects that are executed. Yet, planners do not give adequate attention and inclusion of SC staff in their programming which in most cases result in logistical challenges. The inclusion of SC staff means there’s provision for training and development so as to acquit themselves with the requisite tools for improved service delivery.’*

Comment 2.8.4 and 1.3 describe the lack of leaders and SCM champions. The following quotes further define the need and potential reasons why this lack of leadership exists: (1.5) *‘...It takes a champion, a leader to start making the right changes...’* (2.8.6) *‘In my country, we have systems laid down for a lot of things, SCM included. However, the leadership that is to drive to vehicle (systems) is lacking for a couple of reasons: 1. They do not see or are not connected to the problem statement. 2. Political will is weak for real/positive change so Stakeholders already feel it is a lost cause from the onset. Technical Stakeholders may have the passion but the political class*

who should take ownership and drive the process forward are lacking in understanding and desire for improvement'

Call for Professionalization

It is clear from participants in the discussion that professionalization of the SCM workforce is a significant challenge and must be addressed.

(2.1) 'My experience is that Professionalization is currently the greatest challenge, because this block usually defines the credibility profile and clout required to influence the structure and positioning of the other blocks. Unfortunately, the relative number of Certified Supply Chain professionals, compared to the total number claiming to perform this function is still too small, in my view, although the situation is gradually improving. I think Professionalism brings the necessary competence, integrity, efficiency, and clout, all of which then enhance stakeholders trust and confidence, policy robustness and buy-in, and workforce development and performance. Professionalization is therefore the building block in which I think more resources ought to be invested as a priority....'

The wide call for increased professionalism was echoed by many participants; 2.8.5, 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5, 2.5.6, 2.5.7, highlighting the need to define and support professionalization through engagement with personnel working in SCM, academic institutions and government. The relative new approach of professionalization in this field and the incremental changes being made by some countries was noted. 2.5.8 *'As a strategic approach in HR for SCM block 5 poses a greatest challenge. The MoHSW is now working hard through established roles or set of responsibilities and competencies as profession through newly established Logistic Management Unit. It is still a new and rare profession in pharmaceutical and medicine supplies Management.'*

Define and support the SC workforce

The importance of defining the role of the SC workforce, and then supporting, retaining and investing in that workforce was the third sub theme. (1.4) *'In many resource-limited countries SCM functions are rarely delineated from other service provision activities. For example, once commodities leave central medical stores to the periphery they land on the lap of whoever is in charge of the receiving facility (at different levels, be it regional or SDP level). At these levels, resources (including HR) are often pooled for the various facility needs. So, unless a country has a privatized distribution system (a number of countries are moving towards this), it may prove a challenge for a majority of persons on the forum to respond to question #1 in clear terms. Having said this, it is still important to have an idea of how various countries and programs are addressing.'*

The ability of countries to retain skilled staff is often challenging as noted by a colleague from Tanzania; (2.7.2) *'The staff turnover rate in Tanzania is extremely high. People are trained on supply chain management, actually training comprises a big portion of budget in supply chain organizations in Tanzania yet the challenges regarding availability of high quality staff at the health facilities are still persistent. In most cases, the trained staff who perform really well end up being hired by the international organizations in most cases due to the higher salaries offered. So, I believe once this has been addressed, a big chunk of SCM challenges in Tanzania will be resolved.'*

The need to look at HR for SCM systematically was emphasized (2.7.1, 3.1), with the need to support existing workforce also noted. (2.6.1) *'... there is a critical need to put supportive mechanisms in place to identify and enhance SC workers abilities to successfully carry out their work and also sustain and improve performance.'*

The ongoing need to engage in HR approaches was highlighted, (2.7.3) *'It takes time, resources, and sustained attention and commitment. You can never say "There, we are done, we have built workforce capacity and we can stop now. You have to keep doing it, and do it again.'*

When considering the financial aspects of investing in HR for SCM the suggestion is to not focus on the on the "individual" but on who/what as an institution or a department manages HR for SCM(1.7) *'...I would like to suggest that it is perhaps not so much the "who", since personalities change frequently in the public sector, especially in resource-poor settings, but rather "how" resources are allocated. If this is the case, then it seems to me that we as SCM professionals should be more strategic and proactive in how we influence the resource allocation process generally, including HR.'*

Multiple entities engaged in SCM

Certain supply chain functions are managed by different entities which impacts how the SCM workforce is coordinated, and what skills are required, as illustrated by the following example:

(1.6) *'In My Country we run a parallel system of managing pharmaceutical supplies under a free health programme which caters for children under five and pregnant and lactating mothers- such a category is of course the most vulnerable group for disease conditions and frequently managed illnesses in the hospital. This programme has been in existence for over 4 years and was initiated by the Government; In this system The operations of the SCM runs in this way*

- 1. The Forecasting is managed by the Director of Drugs a Pharmacist by profession who is working under the Directive of the Chief medical Officer in the Ministry of Health and he manages the pharmacist down stream to the health facilities.*
- 2. The Procurement is managed by UNICEF SCM staff who by profession comprise a mixture of professionals ranging from Pharmacist to logistics- However interestingly the Pharmacist within the procurement has a background knowledge of business administration - which facilitated the PSM activity greatly.*
- 3. The Inventory and Distribution is jointly managed by the Directorate and PSM staff under UNICEF. Such a parallel system has earnestly contributed greatly to capacity building of the pharmacist who manages theses supplies through a logistic information systems. The overall human resource allocation is dependent on the Directorate of Drugs and medical supplies and the Allocation of Resources for health facilities depends on Donor contributions and a budget under the Ministry of Health.'*

Currently weak advocacy and policy

Advocacy and policy for general supply chain management operations must come before focusing on supply chain human resource strengthening as in many contexts SCM itself is not recognized as a priority. (2.2) *'I wish there is another block before block 1 which label as establishing supply chain HR/program. Why? Policy needs to realize this first that 1. SCM is a new way of managing logistics, 2. Needs attention and recognition, 3. Needs to be implemented.'* This is further supported by 2.3, 2.4.

Advocacy for SCM should start when the health programs are being planned. (2.7.1) *'This is as a result of how SC is perceived at the higher level in planning processes of most programs and projects. It's an established fact that logistics is embedded in all programs and projects that are executed. Yet, planners do not give adequate attention and inclusion of SC staff in their programming which in most cases result in logistical challenges. The*

inclusion of SC staff means there's provision for training and development so as to acquaint themselves with the requisite tools for improved service delivery.'

In a number of countries, advocacy has been successful and systematic approaches to HR for SCM planning have been the result. (3.1) *'In Mozambique, we are trying to strengthen the supply chain through implementation of our Pharmaceutical Logistics Strategic Plan, recently approved by the Ministry of Health. One component of this plan is how to reform our approach to Human Resources for the supply chain - creating supply chain cadres and pre-service training programs, strengthening pre-service training in logistics for other relevant cadres, developing clear job descriptions, improving motivation and retention, etc. '*

Aspects of HR for SCM are often siloed

Components of HR for SCM are often siloed depending on how SCM is structured in a country, with different people/departments working on aspects of HR requirements but not linking these together in a sustainable way. For example recruitment processes may be developed separately to the supporting documentation such as job descriptions. (1.5) *'...You demonstrate how important is to be specific in the way job descriptions are made and supervised so that the SCM functions are performed according to standards. Lack of efficient procedures to prevent shortages and handle them during emergencies that require increased consumption (such as an epidemic or natural disaster) prevent the staff you mention from doing their work well, coordinate with others in the supply chain system and getting the credit for doing it so. You are right. It takes a champion, a leader to start making the right changes....'*

In addition, organizational structures will not be clear if SCM positions remain undefined for particular cadres or if hiring decisions are limited by hierarchical decision-making process. . For example, a Head of a Central Medical Store may conduct his/her own analysis and submission for more SCM positions but policy will limit his/her power to recruit more staff (1.9, 1.10, 1.11).

Theme 3: Pre-service education and continual professional development as a critical component

The thematic analysis of theme three generated five sub themes as noted in Figure 5.

Theme 3: Pre-service education and continual professional development as a critical component				
Use a needs based approach	Are current approaches adequate?	Is general SCM education relevant?	In service training engaging universities	Inadequate political understanding

Figure 5. The five sub themes from theme 3 ‘Pre-service education and continual professional development as a critical component’

Use a needs based approach

The interactive discussion presented a number of case studies detailing how SCM education was being applied to different country contexts where gaps were established. Examples from Ethiopia, Zimbabwe and Nigeria are provided here:

‘To complement training related gaps, professional associations in collaboration with responsible government agency and partners are providing in-service training for various professionals (not only for pharmacy personnel) at various levels. Some experts who work at high and advanced level were also trained abroad. Recently, Jimma University has launched postgraduate program in pharmaceutical supply chain management which is designed to train high level leaders in the area of health SCM. My university, Addis Ababa University (AAU) is also on the way to launch this program through the collaboration of School of Pharmacy and School of Commerce.’ (P1 Ethiopia)

‘In Zimbabwe, we incorporated Supply Chain Management modules in the pre-service training of both pharmacists and pharmacy technician. We are also planning to incorporate the same in the nursing school curriculum. The SCM modules use the basic concepts and then specifically focus on health commodities.’ (P2 Zimbabwe)

‘In Nigeria, the pre-service training in health supply chain management has been implemented within Pharmacy schools in 12 universities. Currently, the same initiative will be extended to nineteen universities with bachelor degree in Medical laboratory science program.’ (P4 Nigeria)

Although there has been much progress in improving SCM curriculum many countries are still unable to provide their SCM cadres the education they need: *‘In Sudan, still there are huge challenges on programs*

related to SCM. We have one public health institute and one CPD and more the 10 points to graduates assistant pharmacist, but the module still poor & there is no pre-service or in-service training modules. But expanding the number of professionals in pharmacy in general is so increased. Many efforts are now needed to strengthen supply management system.' (P6 Sudan)

The challenge of ensuring the value of pre-service education was also raised: *'Do you have a mechanism to follow any positive impact that the pre service training has brought to the SCM system?'* (P15) There is no doubt that personnel working in health supply chains require certain skills and competencies to do their job properly. The challenge is to do this in an effective way in the local context. With the following two quotes indicating the importance of integrated life long learning approaches and a combination of the academic and the practical.

'Pre-service training (inclusion of SCM in curricula etc) is necessary but only manages to establish a platform from which in-service training is able to create a SCM cadre who is able to meet the expectations expected of them by stakeholders. To expect pre-service training alone to create a SCM cadre; is expecting a lot from this form of training. Pre-service training should be more of an eye opener to the health professional of what is expected of them.'(P16)

'But a blend of this (academic approaches) with practical issues such as what we have on this platform would help improve staff level of competence and improve service delivery.'(P19)

Are current approaches adequate?

Participants asked if current approaches to SCM pre-service education were adequate. Are the correct cadres being training, and is the depth of their training sufficient?

'But as nurses and laboratory technologists/technicians are also involved, they should also get this course. In my opinion, higher educations like in Jimma University cannot address all health facilities supply problem rather will help for the development of this field by researching and teaching other cadres on this field. So, it is better to focus on undergraduate and diploma programs.' (P3)

'I also agree that nurses and midwives should have exposure to SCM courses during their pre-service training, but the depth and breadth of these need to be assessed accordingly. In an ideal world, they should be left out of this; this is not their domain. But given the reality on the ground, they perform the bulk of the SCM functions, particularly downstream, and as such they should be adequately equipped for this.' (P8)

'When I had a conversation on this with a Senior Lecturer at Makerere University in Uganda, only yesterday, he mentioned that they have recently included SCM modules in their 4-year B. Pharm Program. I congratulated him for this and asked him what the duration of the course was. He answered that it was one week. I then asked him to give an estimate of the functions of the Ugandan pharmacist that were SCM-related. He said 80%. So clearly there is a disconnect between what we are training our students in pharmacy schools and what systems require of them when they graduate. Increasingly, a number of pharmacy schools are realizing this and attempts (some token) are being made to include SCM courses in pre-service training. Pharmacy school in Tanzania, Malawi, Zimbabwe, Kenya, Nigeria, and Ghana as mentioned by Egbert below, now have some SCM management course in place. In Liberia, we have gone further.' (P8)

The need for universities to consider the working role of their graduates and ensure that they have a needs based curriculum that meets this role is expressed above. The case study from Nigeria outlines the process they are undertaking to address this gap.

'In 2013, a meeting of the deans of the pharmacy schools, and policy makers agreed that a gap existed between real field responsibilities of graduates, and the theoretical knowledge they acquired in school. This was particularly wide in the area of supply chain management.' (P7)

It is also important to ensure that those graduating from health supply chain courses have real job prospects: *"How do we guarantee that those who have received pre service SCM education will indeed be absorbed in the health service and deployed to SCM specifically?... one year later, those who had qualified the previous year were still waiting to be officially absorbed into the service."* (P12)

Is general SCM education relevant?

SCM education is present in a number of business schools and commerce courses within universities. It was interesting to note that participants felt that such courses did not meet the needs of cadres working with health commodities:

'However, all these training are very generic – doesn't address the unique features of health commodities.' (P1)

'This is somehow similar to degree programs and masters programs being offered in Zambia. They are very much commerce biased and unlike the Ethiopian curriculum that is trying to abridge the commerce and health, what is very pronounced in Zambian Universities is Public health Courses which am very sure have little to do with the tailor-made supply chain for health logisticians.' (P5)

In-service training engaging universities

The burden of in-service training to account for a lack of appropriate pre service education for cadres involved in health logistics and SCM functions was noted. Further, on going continuous professional development activities for SCM in the health sector are being provided by an increasing number of local universities and professional societies:

'For continuous education, we have the Institute of Public Health (IPH), Obafemi Awolowo University offering short course in logistics management of health commodities with 10 CPD points. We have also worked in collaboration with the in-country professional accreditation bodies in medical laboratory science and K4Health as lead to develop an online medical laboratory supply chain management course with 2 CPD points.' (P4 Nigeria)

'Additionally, continuous education through established institutions like the School of Public Health, University of Ghana, Legon is going to start with certificate programs in supply chain management, and also quantification of health commodities.' (P7)

Inadequate political understanding

The main barrier discussed that was seen as preventing progress for health logistics and supply chain education and training, and professionalizing, was a lack of understanding and engagement from administrative and political leaders who determine the priorities and funding allocations in government.

‘...people can be trained but still political interests do not allow us to improve SCM in Africa.’(P9)

‘The key issue is for MOHs to have departments of SCM. Currently, SCM is everybody business in MOHs. SCM experts are not been given the opportunity to work because of bureaucracy of service.’(P13)

‘Another barrier that I may add is organizational structures are not fluid to adapt to changes or any shift to organization goal. There are also issue with leadership, centralization and finance.’(P14)

With the discussion closing with this discussion it is interesting to note that ‘engaged stakeholders’ was identified as one of the five building blocks for HR development in SCM.

Discussion

This is the first time an interactive online discussion was conducted on the IAPHL platform engaging the topic of HR in SCM. With over 100 posts from 24 countries during the period of the discussion, it is clear that this is a topic of interest to the global health logistics and supply chain community.

The themes generated by the discussion validate the need for the international community to continue to increase their focus on HR for SCM as efforts grow to increase the strength and sustainability of health supply chains in developing country contexts.

The USAID Action framework presented in week two of this discussion considers human resources as a key performance driver within supply chains. The proactive management of plans and procedures with people and organizations can enable a sustainable supply chain. This model presents the five major building blocks that need to be strengthened for effective HR development.



CapacityPlus framework adapted by USAID | DELIVER PROJECT

Figure 6. The USAID | DELIVER Action Framework for Human Resource Capacity Development in Public Health Supply Chain Management

As further support to this integrated and systematic approach to HR in SCM The Capacity Plus technical brief 12 gives a national health supply chain strengthening framework that depicts an approach to planning, developing and managing a health workforce.

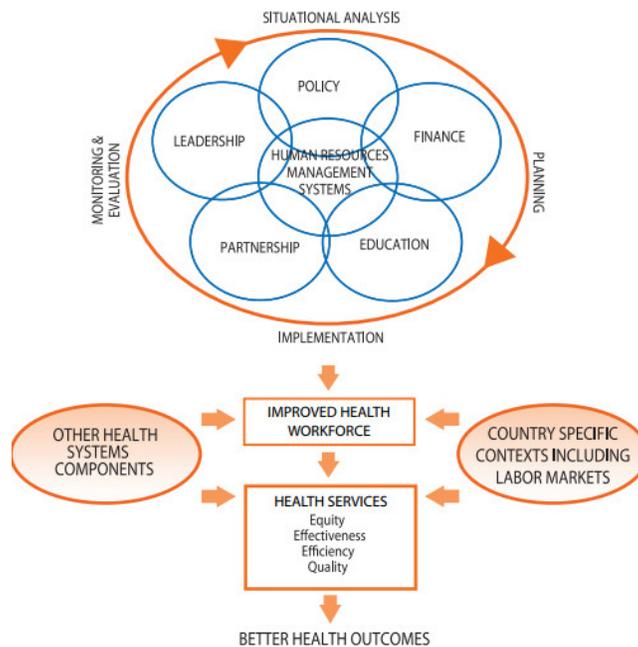


Figure 7. Capacity Plus Technical Brief 12- HRH Health Action Framework (HAF)

Within this online discussion we have focused on HR in SCM, but this is only one of a number of points of engagement for the development of health supply chains. The Potter and Brough model of capacity development is illustrated below and shows that capacity development is a complex process which requires interventions to be applied at each level of the pyramid. The focus of this discussion has been on HR, a key crosscutting theme through the capacity development pyramid. It should be noted that for health supply chains to be sustainable a focus is also required on the other inputs, namely; equipment, infrastructure and system design. Such a comprehensive approach can only be achieved through systematic planning of these interrelated components, with consideration given to all levels of the health supply chain.

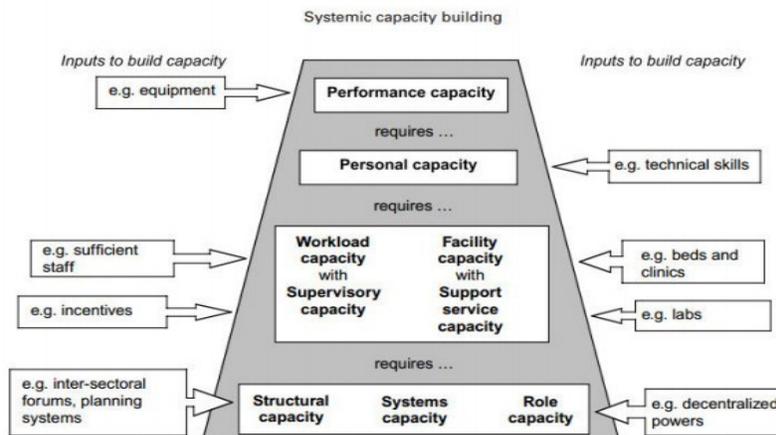


Figure 8. Systematic capacity building: A hierarchy of needs, Potter and Brough

More recently the Global Alliance for Vaccine and Immunization (GAVI) published a supply chain strategy (http://www.google.com.au/url?sa=t&rct=j&q=gavi%20supply%20chain%20strategy&source=web&cd=1&ved=0CCIQFjAA&url=http%3A%2F%2Fwww.gavi.org%2FLibrary%2FPublications%2FGAVI-fact-sheets%2FGavi-Supply-Chain-Strategy%2F&ei=cN_FVPqqAqblmwXr7oGgBA&usg=AFQjCNEmtVoEcMunCmdSfn7MvVt5T92bQQ&sig2=YZ29QS_Kshfn2c2wCyF4UEA) . This strategy is one of the first internationally developed strategies that articulates these complex interrelationships with associated targeted interventions. Specifically, the strategy acknowledges system design, data management, equipment, and human resources as key factors that require simultaneous interventions for sustained progress in health supply chains in low income contexts. This strategy further positions the importance of the need to focus on human resources in the context of other supply chain elements for sustained development to occur. The strategy identifies the need to develop health supply chain leaders and to engage governments with advocacy messages regarding the importance of health supply chains, as key first steps. This approach is supported by the results of the IAPHL online discussion presented in this report.

At the country level many countries have developed national health supply chain strategies that include the components outlined in the GAVI strategy, but these countries still face challenges in implementing their plans and making progress against their stated goals. As the international community moves to help countries realise universal health care, it is clear that health logistics and supply chain will be a key activity. More international and country based action will be needed requiring collective and coordinated action with the development of human resources for supply chain management a key pillar for success.

Conclusion

The IAPHL online discussion forum has proven to be an ideal place to conduct discussions relating to issues affecting health supply chains. In this discussion focusing on HR for SCM there has been clear consensus that HR issues are a key barrier to further development in health supply chains, with a focus on education a leading factor. Further, education is but one of a series of interrelated factors that need to be considered for HR to be systematically strengthened. A focus on HR within SCM is one of a number of inputs to consider for sustainable health supply chains to be a reality in low income environments, but it is often the input receiving the least attention. It is hoped that the evidence synthesised in this report will further encourage systematic country approaches to HR for SCM, with PtD acting as a key Initiative offering its support.

Appendices

Appendix 1: Theme 1 Detailed evidence brief

Moderator:

Pamela Steele, Director, Pamela Steele and Associates Ltd.

Brief moderator bio:

Pamela Steele is director and principal consultant at Pamela Steele Associated (PSA) Ltd, a consultancy specializing in supply chain management in the international development and humanitarian sectors. Pam has an MBA in Supply Chain Management and is a doctoral (DBA) student at Cranfield University, UK, researching the health supply chain in developing countries. She is the incoming Lead of the People that Deliver Initiative Research Working Group. Pam's career has spanned over 25 years in logistics and supply chain management in international development. Previous employers include UNICEF, UNFPA, Oxfam Great Britain, the International Committee of the Red Cross (ICRC) and World Vision International.

HR as a barrier to effective health supply chains

Our discussion for week one focuses on the challenges for the public health supply chain workforce. This week we will take an in-depth look at how your greatest SCM workforce challenges impact the functioning of health supply chains and ultimately health programs. During week 2 and 3 of our discussion, we'll hear more about ways to address these challenges in a systematic way.

The literature reports that immunization supply chain functions are frequently performed by untrained health workers for the supply chain function, such as pharmacists, clinicians and drivers in developing countries. Many authors allude to this point (1,2). Additionally, it is stated that there are few specific SCM roles (3,4), and that it is difficult to fill even these due to the high demand relative to the supply of suitably skilled individuals. This can result in high vacancy levels in SCM positions, leading to underqualified staff performing these roles on an ad hoc basis (5).

Authors allude to lack of supply chain training as a central human resource for health (HRH) as an issue in developing countries (3,6). It is suggested that the lack of professional status for SCM in many developing countries leads to lack of inclusion of a devoted SCM curriculum within the healthcare curricula which obscures the importance of SCM in healthcare delivery. The Global Survey for Public Health Logisticians found that 57% cited lack of training as a major problem and that only four of the eight developing countries researched offer pre- and in-service SCM training of staff (7,8). The quality of the few training programs that do exist, though, is also considered questionable (9). Materials are often inadequate, class sizes too large, materials are not adapted to local contexts and the skills that are learned are not consolidated formally following each session (2). The training that is received is also highly differentiated in terms of quality and geographical evenness (5).

Although in its SCM country assessments People that Deliver (8) writes that seven out of eight countries surveyed have dedicated SCM roles, it also notes that only half said that they believed policymakers understood the relationship between commodity security and human resource strengthening; and that as one moves further down the supply chain, the SCM responsibilities of staff become more confused. Having dedicated SCM roles can increase the capacity for empowered decisions to be made. However, in Malawi, for example, the procurement and supply management (PSM) system for anti-retrovirals (ARVs) is controlled by only a few central MoH staff who devote only part of their time to SCM (10).

The relationship between performance monitoring, accountability and recognition is drawn out by the authors (1,3,11). If performance is not monitored, then the incentive to work to the best of one's ability is partially

removed. The authors suggest that SCM should be recognized as a profession with clear functions, so that performance can be monitored so as to improve it. The need for adequate financial and non-financial requirements to be met in order to encourage staff satisfaction and satisfactory work is stated (4). Although adequate remuneration is a key factor in retaining staff and improving performance, so are non-financial factors such as 'living and working conditions, training, feedback and advancement opportunities.' (2).

It is clear from the author's research regarding supply chain practices that there are a number of constraints on developing country supply chains that lead to high levels of stock wastage and stock-outs. Empirical data is also deployed to illustrate this. It is estimated that up to '50% of vaccine doses are wasted by not being administered, and many more doses are exposed to freezing temperatures that can reduce their potency,' (3).

Theme 1 Seeding questions

The following seeding questions were used to promote discussion of theme 1:

1. What workforce issues affect your public health supply chain and how do they impact the availability of goods?
2. Who are responsible for SC functions and for decision making at each level of your public health supply chain?
3. How are those with responsibility within the public health supply chain equipped to fulfil their supply chain responsibilities?

Further reading

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Appendix 2: Theme 2 Detailed evidence brief

Moderator:

Erin Hasselberg, Principal Advisor, HRCDD, Supply Chain Management System project (SCMS)

Brief moderator bio:

Erin Hasselberg, MS, Principal Advisor, Human Resource Capacity Development, Supply Chain Management System project, and People that Deliver Initiative Technical Working Group Lead. Erin has worked in public health supply chain management for 10 years and currently manages the capacity development portfolio for SCMS' global activities across 22 field offices in Central America, Africa, and Asia.

Taking a systematic approach to Human Resources for Supply Chain Management

In the previous week's discussion Pamela Steele identified critical challenges that public health systems face with regard to the supply chain workforce. This week we will discuss how to take a "systematic approach" at addressing those challenges, including examining the five human resource building blocks². These building blocks provide a comprehensive approach to assessing and managing human resources. Together, they inform the most effective ways to attract, motivate, develop, and retain new and existing talent needed to expand supply chain performance.



As our discussion will only skim the surface of each individual building block, we are providing these brief descriptions and example components of each building block in the table below to help frame our conversation.

HR Building Block	Summary definition	Example components
6. Engaged Stakeholders	Individuals/groups who provide technical leadership and advocacy in the field of supply chain management (SCM), as well as human resource management.	SCM HR Champion, Commodity Security or HRH Working Groups or Country Coordination and Facilitation .
7. Optimise Policies & Plans	Policies, plans, and associated standard operating procedures (SOPs) that support human resource capacity development and management.	Human Resource Information Systems (HRIS), financing, SCM SOPs, HR Policies
8. Workforce Development	Initiatives that focus on identifying and building a robust supply chain workforce. Including pre-service education and in-service training	Job descriptions, recruitment , competency framework , pre-service and in-service education

² As developed by CapacityPlus (CapacityPlus 2011) and modified by the USAID | DELIVER PROJECT (2013) ; *CapacityPlus*. 2011. *Serving Health Workers, Saving Lives*. (accessed September 9, 2011). http://www.capacityplus.org/sites/intrah.civactions.net/files/resources/CapacityPlus_Brochure_0.pdf

9. Increased Workforce Performance	Initiatives that identify and enhance supply chain workers' abilities to successfully execute job responsibilities.	Retention and performance incentives , supervision , mentoring, coaching, and task-shifting .
10. Professionalization	A process used to make or establish supply chain roles, or set of responsibilities or competencies, as a profession.	SCM certifications from CIPS , APICs or CILT , professional associations such as IAPHL , Resolog , etc.

In addition to discussing the building blocks, we will also have an in-depth look at an assessment guide and tool that, when implemented, provides a comprehensive view (and a series of diagnostic dashboards for a visual output) of the state of human resources in an organisation's supply chain and how these results can be used to advocate for strengthened HR for SCM. Similar to last week, throughout our discussion, we will reference country applications and examples in order to ground our discussion in real-world experiences.

Theme 2 seeding questions

The following seeding questions were used to promote discussion of theme 1:

4. Who is responsible for allocating resources to human resources for SCM in your country/organization? and/or, Who in your country/organization advocates for strengthened human resources in supply chain management? What policies plans have they championed?
5. Which of the building blocks poses the greatest challenge for your country/organisation? Why? Survey Monkey was also used to encourage answers to this question <https://www.surveymonkey.com/s/IAPHLHR4SCMQ2>
6. If you have conducted the HR for SCM Assessment, what did you learn? What were the results? What are the next steps? Or if you haven't conducted the HR for SCM Assessment, now that you've been introduced to the building blocks and the importance of a systematic approach, do you think this assessment would be of benefit to you? Why? What might be your next steps to get it implemented?

Further reading

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USAID | DELIVER PROJECT, Task Order 4. 2013. *Recruiting Supply Chain Professionals: A Ready Reference Guide for Finding and Selecting High Performers*. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 4. http://deliver.jsi.com/dlvr_content/resources/allpubs/guidelines/RecruitingToolkit.pdf

Appendix 3: Theme 3 Detailed evidence brief

Moderator:

Andrew Brown, Executive Manager, People that Deliver

Brief moderator bio:

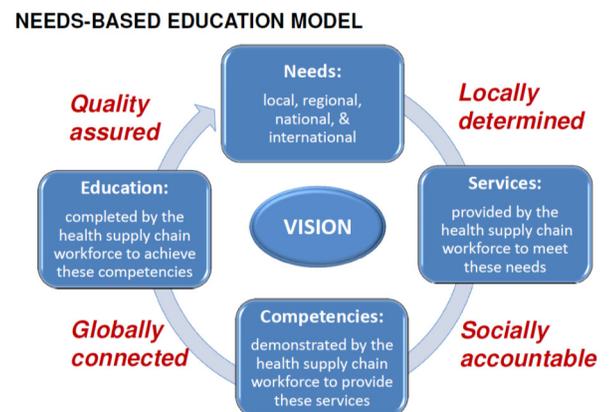
Andrew joined the People that Deliver Initiative in June 2013 following an Assistant Professor position at the University of Canberra. He is a pharmacist by background with an 18 year career in hospital and community pharmacy before engaging in supply chain management capacity development since 2007. His initial country based activity has been in the Asia Pacific Region with UNFPA and WHO.

Pre-service education and continual professional development as a critical component in HR

In the previous week's discussion Erin Hasselberg helped us explore the five building blocks that make up a systematic approach to HR for SCM and how they can be assessed. This week we focus on pre-service education and continual professional development as part of **Building Block 3: Workforce development**. This building block also covers initiatives that focus on identifying and building a robust workforce, including recruiting, competency modelling and development.

Supply chain management education initiatives need to be considered in the context of other workforce development requirements, as well as the other building blocks necessary for effective HR management for them to be effective. It is important to avoid the 'black hole' of training.

A 'needs-based' approach to education that considers the competencies required by specific cadres of staff, and the local context over the long-term is the most sustainable and potentially the most effective.



Quick hints for pre-service education (education that is the minimum that defines a profession or cadre)

- Engage with local academic institutions, government and logistics and supply chain experts
- Consult WHO's education guidelines for health professionals: <http://whoeducationguidelines.org/>
- Consider how the quality of the education will be maintained
<http://www.fip.org/files/fip/PharmacyEducation/Global%20Framework%20.pdf>

Quick hints for continual professional development including in-service education (education undertaken by personal while acting in their professional role)

- Engage with local academic institutions, government, and logistics and supply chain experts
- Consult these guidelines for in-service training: <http://www.hciproject.org/publications/global-improvement-framework-health-worker-service-training-guidance-improved-effective>
- Consider a model that links in-service education to pre-service or post graduate education

Theme 3 seeding questions

The following seeding questions were used to encourage discussion around theme 3:

3. What pre-service and in-service education for logistics and SCM occurs in your country?
4. What are the barriers to improving health logistics and SCM education and training in your country context?

Further reading

Brown A, Ward-Pankurst L, Cooper G: (2013) A review of factors effecting learning and teaching for medicines supply management training in Pacific Island Countries - A realist review. Rural and Remote Health, 13 (3)
<http://www.rrh.org.au/articles/subviewnew.asp?ArticleID=2327>

Brown, A. Gilbert, B. Cooper, G. Bruno, A. (2012) The development of a competency framework for various cadres of personnel involved in the delivery of pharmaceutical services within Pacific Island Countries. Journal of Pharmacy Practice and Research 42: 268-72. <http://search.informit.com.au/documentSummary;dn=059218138673435;res=IELHEA>

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In Zambia: Building sustainable capacity through pre-service supply chain training (2011)
http://scms.pfscm.org/portal/pls/portal/!PORTAL.wwwpob_page.show?_docname=2809484.PDF

In Zimbabwe: integrating supply chain management into pre-service training of pharmacists, pharmacy technicians and nurses http://scms.pfscm.org/portal/pls/portal/!PORTAL.wwwpob_page.show?_docname=2809486.PDF

Appendix 4: Theme 1 participant responses

The quotes gathered in the blog have been reorganised by the researcher to analyse their content according to arising themes. Some of the comments are reported under a different question to the one initially intended by the respondent – this is only for the use of the researcher as certain themes were covered in more than one question.

Question 1: What workforce issues affect your public health supply chain and how do they impact the availability of goods?	
Concept/node	Quote(s)
Misconception of SC competencies	<p>SC seen as administrative role: ‘I think that the evolution of the supply chain function in many countries, especially in the so-called resource-poor settings, has been such that the function is seen almost entirely as an administrative one, requiring little or no specific training and, therefore, further HR investment.’ (MS)</p> <p>‘In developing countries like here in Papua New Guinea (PNG) (...)supply chain functions are still very much labour intensive, from top to bottom.’ (GW)</p> <p>‘..the complexity of health logistics and supply chain is not known by those in power (ministries etc.), and they may feel that these tasks are just administrative. How do we advocate to these leaders so they become aware of the complexity of health logistics and supply chain so that it gets the priority attention it deserves?’ (AB)</p> <p>‘Many countries within the region and maybe elsewhere, do not necessarily think this is a priority and focus mostly on investing in other cadres of health workers, nurses, doctors etc. Maybe because those of us responsible for flagging this important agenda, are not doing enough to get this agenda on the table for deliberation and pushing it to policy and decision makers. (GW)</p> <p>Unclear where to position SC responsibility along the chain: ‘In developing countries like here in Papua New Guinea (PNG), where supply chain functions are still very much labour intensive, from top to bottom, the placement of appropriately trained supply chain individuals at critical points of the supply chain becomes very necessary.’ (GW)</p> <p>‘For example, in the countries surveyed, I wonder how many had an independent SCM profile at strategic decision making level.’ (MS)</p> <p>‘Although, we may not be able to place pharmacists and logisticians at all points where we want them to be, at the Central Level, the Department of Health has begun talks with a local university here to develop curriculum for the training of Pharmacy Technicians and Logisticians. It is anticipated that, when this people get trained, they will be posted to lower level health facilities, alongside nurses to perform supply chain functions.’ (GW)</p> <p>Need to cover tasks neglected by others: ‘Oftentimes, the district does not have the resources (personnel, vehicle, and fuel, per diem) to ensure the commodities are delivered to the health centres. In this situation, the system becomes more ad hoc, depending on the motivation of the health worker to arrange transport and time away from the health centre to fetch medicines from the district level. Fetching medicines from the district is out of the scope of work for the health worker but is necessary for the functioning of the health centre. Consequences are more frequent and severe stock-outs, lost opportunities for care when a nurse is fetching commodities, and even less supervision at the health centre level as no one from the district is visiting for distribution.’ (WP)</p>
Lack of supply chain strategy	<p>Working on contingency ‘.. country priorities focus more on disease programs leaving SCM to lower priority.’ (AK)</p>

	<p>Decision making level ‘For example, in the countries surveyed, I wonder how many had an independent SCM profile at strategic decision making level. Usually this, and the many complex administrative matters, is lumped in one "Permanent/Senior Secretary" who may not necessarily fully appreciate the implication of SCM issues including, for example, the right level of remuneration for SCM personnel.’ (MS)</p> <p>‘The shift of the responses to the public health needs have somehow increased triple fold (understatement) with focus more on the technical competency such as upskilling of Drs, nurses, improve facility, strengthen health promotion and so on. A successful public health program for any settings must depend also on a competent and effective logistics system which are currently lack universally.’ (AV)</p> <p>‘Lack of political will because lack of political understanding therefore support is lacked.’ (AV)</p> <p>‘It is always important to note that supply chain management is just slowly being appreciated in most set ups. In Zambia in particular a National Supply Chain Strategy (NSCS) has been drafted and the Ministry of Health in collaboration with USAID and other key partners are taking the lead in ensuring that it gets implemented. The NSCS is addressing a number of aspects and one of them is the HR component. The mere fact that the Ministry is part of the NSCS process, indicates that there is growing interest in strengthening the current operations.’ (LK)</p>
<p>Target level of education</p>	<p>Master level or other qualifications ‘In the Ethiopian health care system pharmacists do the majority of health care supply activity. In their undergraduate courses there is no sufficient topics covered. In some institutions nurses or other health professionals will also be involved in supply of health commodities. even accountants/other non-health professionals may be involved, especially in private sectors which have led the country's health system to frequent stock outs and expiry of products. Currently, the government understood these problems and has started a master’s degree for pharmacists at Jimma university; MSc at pharmaceuticals supply chain management.’ (SA)</p> <p>‘The solution should not only lie in creating a highly qualified cadre (MSc in Supply Chain). Professionalization of SCM should encompass all chores along the chain from the Central to the periphery (lower qualification cadres).’ (LM)</p> <p>‘In Ethiopia, pharmacists are highly involved in the management of health commodities. Nine years back graduates of the school of Pharmacy had no courses directly addressing health SCM in their curriculum but now attempts were made to include SCM courses with reasonable credit hours in the harmonized curriculum in the country. As a result, I am observing improvements in the health SCM practice but I feel that the course coverage is still insufficient.’ (DT)</p> <p>Access to experts/academics ‘Getting the right experts (academicians) who specialized on health commodities and SCM, and retaining these highly trained academicians is also a big challenge. (...) Partners and government have also been trying to fill gaps of their employee through in-service training but it rarely includes academicians.’ (DT)</p> <p>Training health workers ‘Experience here in PNG, shows that that, over the past 10 years, with grants from GFATM and UNFPA, for example, the country has trained a lot of health workers on supply chain management, especially at the provincial and district level and till today, there is nothing to show, our health supply chain here still performs below par. One point that comes out very clear from this is that, we have been spending too much money and time on training the wrong cadres of health workers such as nurses, who have other primary duties and spend very little to no time on supply chain management.’ (GW)</p>

	<p>'The future, though looks bright in our setting as the stakeholders are engaging academicians in institution training health worker to inco-operate SCM in their curriculums.' (LS)</p>
<p>Data inaccuracy</p>	<p>Mismatching between supply requested and delivered 'in consumption-based distribution systems that we have seen, health workers will complete requisition forms to submit to the higher distribution level, but then will receive only a fraction of what they requested without any explanation of the reason why. This results in <u>deprioritizing quality data for requisitions</u> as the information is not actually used at higher levels of distribution.' (WP)</p> <p>Lack of training among health workers, need for pharmacist at primary health care as they are trained: 'At the regional or district level where you have pharmacist or pharmacist-assistant you can be assured at list that the order will be more accurate as they are trained. If the district supplies to health centre and clinics, orders received are not based on evidence; most of the time the nurses are guessing (reasons are: work load, not our duty...). So in this system the data on quantification at central level is also biased. I think to have a pharmacist -assistant at primary health care will help improve the supply chain.' (KM)</p> <p>Task segregation 'I found that adding the reporting of last's month usage to the stock replenishment requisition, therefore having a 2-in-1 form for 1/ requisition (supply chain) and 2/ usage (M&E) helps staff to think again about the direct "linkage" of both, and increase work quality and prevent mistakes. It is also a huge incentive for on-time reporting of M&E data. Task segregation (supply chain vs. M&E staff at the local and central levels) has de-linked them unfortunately.' (PV)</p> <p>Visibility 'The way to improve visibility in SCM is to ensure that facilities learn to demand and use data for decision making. This can only happen if the data is relevant, accurate and timely and this is where information management systems come in handy. Each facility data should then be escalated and aggregated at the next tier e.g. district/county/ provincial and national level through a seamless and real time system. Feedback should then be provided to the facilities from the facility data users upstream. In Kenya for example, we have developed an eSCM systems that helps each tier within the supply chain to auto aggregate facility data and have it viewed real time by decision makers within the supply chain. The current challenge is adoptability of this system across the entire national supply chain. If anyone wants to view this system, you can log on Error! Hyperlink reference not valid.>.' (RN)</p> <p>'There is another possible way forward then trying to build the capacity of thousands of people at health facilities and districts to do a good reporting via the LMIS. The way supermarket wholesale has been operating for long time in industrial settings is via "Vendor Managed Inventory" The system is that the vendor, - in our case the central pharmaceutical wholesaler - would know two things - the stock status and how much was issued at the site. Then the wholesaler themselves are responsible for maintaining the right quantities in stock at site level by sending the items there. The central wholesaler can do this quite easily with appropriate IT support which would be standard in the system he anyway has. That way of thinking would need only that the stock status and consumption is reported back from health facilities, and not demand any calculations. For many places it could probably even be simplified to only report the stock status. Over some time average demand can anyway be calculated. At site level is the challenges in HR in many countries simply so big that it is not realistic to meet them. There it would be better to simplify, demand less from the personnel and develop mechanisms which can deliver - irrespective of ill equipped personnel with low salary and big turnover.' (PK)</p> <p>'Lack of supply chain visibility is what has led to creation of waste and eventual loss of limited resources. In most low and middle income based countries, their central medical stores, do not have real time information on the consumption trends happening at health facility level. This has led to usage of issues data for forecasting and quantification of commodities at national level thereby creating the bull whip effect. A lot of</p>

	our resources are tied into some commodities we have assumed will be consumed during a particular period and have ended up expiring. In order for our countries to move with the 21st century supply chain practices, investment in information systems becomes a critical factor as opposed to increasing HR. Data generation at health center level should automatically be remitted to the central warehouse and eventually suppliers. This means that there has to be a link between the up and down stream SC. Lower level facilities, central medical stores, suppliers and manufacturers should all be integrated through just in time information transfer systems. In the recently launched electronic logistics management information system(eLMIS)in Zambia, efforts are being made to try and improve supply chain visibility in 50 pilot sites.' (LK)
Transparency (lack of)	'Everybody either wants to be in procurement or has an interest in it! The result is that recruitment of the right or competent staff for this complex and sensitive role is quite a nightmare. Again, I must say that with increasing emphasis on transparency, improved procurement infrastructures, including robust independent oversight, this too could be improving.' (MS)

Question 2: Who are responsible for supply chain functions and for decision making at each level of your public health supply chain?	
Concept/node	Quote(s)
Responsible figures	<p>Pharmacist</p> <p>'In my context, pharmacists have been regarded as the SCM specialist when actually we did not learned this at school.....maybe proper stock management. (...)' (AV)</p> <p>' My experience at WHO, GFATM, RBM, etc. and with endless pharmacists. etc. show me that they are not, they do not understand it fully, and dislike implementing it. Supply Chain people are transversal, both on the system and the products (pharma, health supplies and non pharma). Pharmacists focus only on products and therefore are less likely to be efficient and effective. I don't deny that pharmacists are good at 1/ rational use of medicine, 2/ quantification and specification, 3/ Quality Assurance/Control since they are trained to do that. They do a really good job at the GFATM in these areas. But their job is to perform all the above. Therefore, they are good people but at the wrong place.' (PV)</p> <p>'Apart from what all you have raised, the pharmacy profession in the public sector in developing countries have been branded badly. No one believes in us anymore and it affects the whole moral and image of the profession. I for one would like to see the shift in the paradigm to SC experts to save the pharmacy profession.' (AV)</p> <p>'The solution does not only lie in creating a new SCM cadre outside the pharmacy framework. Pharmacists can still form the pivot point around which SCM professionalization is centred. Whereas SCM does not equal pharmacy practice, the practice of pharmacy should not be immune to change.' (LM)</p> <p>'Recently, introduced course like Pharmacoeconomics also enables pharmacists to make informed decision by doing/using cost-minimization analysis, cost-benefit analysis, cost-effectiveness analysis and cost-utility analysis. During the past nine years, pharmacists' curriculum has changed and so does their contribution in health the supply chain management too. Overall, pharmacist's contribution shouldn't be undermined and I am not also saying that they are the right professionals for all SCM activities. I do feel that we have gaps such as logistics information management system, tender management, transport management; monitoring and evaluation, which are the central part of health SCM, although it has been tried to fill these gap through in-service training for some.' (DT)</p> <p>Evolved Health professionals</p> <p>'The public SCM in Zambia faces similar HR challenges as highlighted by Dewit from Ethiopia - shortage of qualified personnel especially at SDP levels, staff exodus from public into private sector thereby leaving proxy's with no or inadequate training in SCM, lack of deliberate policy in the training institutions to</p>

	<p>inculcate SCM knowledge & skill in pharmacist & nurses who shoulder these responsibilities in most of the downstream SC nodes or levels. The future, though looks bright in our setting as the stakeholders are engaging academicians in institution training health worker to incorporate SCM in their curriculums.’ (LS)</p> <p>‘Existing ad hoc mechanism of managing SCM by Pharmacy / Nursing professionals may not be sustainable as SCM too is a science hence short term methodology could be to have regular trainings & recognition of existing staff (including incentivisation & freeze role), long term could be to add SCM topic in Pharmacy / Nursing courses.’ (PT)</p>
Decision level	<p>Integration of Pharma knowledge ‘Pharmacist can provide the technical assistance to the SCM to ensure compliance to the regulation however the right to manage SCM needs to be left with the qualified SCM’ (AV)</p> <p>National ‘ At the national level I am aware that Pharmacists who have acquired certificate in SCM or MBA in SCM are responsible for the ordering, receiving and logistics activities.’ (BO)</p> <p>‘They (doctors, nurses, pharmacist, lab tech, biomedical tech) are not equipped with the right attention from the executives because executives are not equipped with the right understanding of SC.’ (AV)</p> <p>‘The Ministry officials of Country needs to be sensitised on how ‘this Operational gap’ is effecting overall coverage and than customized solution needs to be designed as per priority.’ (PT)</p> <p>‘Lack of political will because lack of political understanding therefore support is lacked.’ (AV)</p> <p>Central Medical Store ‘It is the Central Medical Store is responsible for the SC functions at the health facilities. Why? If there is an out of stock at the health facilities, CMS is responsible for it and the manager is taken to task.’ (AV)</p> <p>‘At the central level here in Ethiopia, medical equipment, laboratory kits and reagents used to be selected, procured and received by peoples who are not equipped to execute these tasks but now these jobs are given to the right professionals like biomedical engineers and laboratory technologists.’ (DT)</p> <p>‘At the moment even though these cadres are being created at state level....it could be further strengthened by engaging young pharmacy graduates/Science graduates etc with proper training on PSCM & QA to manage the district stores including managing forecasting, storage, distribution, ensuring QA, rational use, etc. and needs to be supervised on a regular basis to further strengthen the SCM. Apart from this, they need to be well paid including provision of performance based incentives, training for upgrading their skills, promotions etc.’ (NB)</p> <p>Local ‘Managing the every SC activities in the health facilities is usually the pharmacist, pharmacy assistants and nurses.’ (AV)</p> <p>‘Supply Chain professionals are responsible for the ordering, expediting, receiving, customs clearance, storage and distribution to the final beneficiaries in my organisation.’ (BO)</p> <p>‘They (doctors, nurses, pharmacists, lab tech, biomedical tech) are not equipped with the right numbers.’ (AV)</p> <p>Execution</p>

	<p>Currently, in most Pacific Countries, Nurses, Pharmacists, Doctors and Stores officers are responsible for Supply Chain Functions. This covers all that delivering health services in the Primary, Secondary & Tertiary Health Care Level. At the same time they sometimes part of decision making but majority of times it is higher authority level that are empowered to do decision making.</p> <p>Lack of clarity on who holds the responsibility</p> <p>‘The other question that needs to be asked who take ownership of the supply chain activities at health facilities? How can the ownership and responsibility be given to the health facility levels managers?’ (AV)</p> <p>‘Who is responsible for the overall functioning of your public health supply chain? Is there anyone who is responsible for ensure that the entire supply chain system is functioning adequately?’ (BH)</p>
Inhibitors	<p>‘The lobby of pharmacists/doctors still hold on power in these international Organizations and in in-country healthcare, and therefore continue to cripple the supply chain systems, so that we will miss the 2015 targets and it costs a fortune and therefore lives.... Now the Global Funds request their PSM experts to be pharmacists, same for LFAs. It is going into the wrong direction.’</p> <p>‘Supply chain functions should be the sole responsibility of supply chain professionals but inadequate number of professionals in that sector allows Pharmacists assume that functions especially due to their role in management of drugs and commodities in our respective facilities. However for proper management we need to build their capacity in areas of quantification, procurement, warehouse management and proper distribution.’ (MH)</p> <p>‘In my views, professionals who have adequate training in health (preferably about health commodities) and SCM i.e. health SCM professionals should be responsible for supply chain function but right now it is rare to find these professionals. So, I strongly believe that these tasks should temporarily be performed by teams who have the right expertise for each activity.’ (DT)</p> <p>‘The public SCM in Zambia faces similar HR challenges as highlighted by Dewit from Ethiopia - shortage of qualified personnel especially at SDP levels, staff exodus from public into private sector thereby leaving proxy's with no or inadequate training in SCM, lack of deliberate policy in the training institutions to inculcate SCM knowledge & skill in pharmacist & nurses who shoulder these responsibilities in most of the down stream SC nodes or levels.’ (LS)</p>

Question 3: How are those with responsibility within the public health supply chain equipped to fulfil their supply chain responsibilities?	
Concept/node	Quote(s)
Training	<p>Educating Governmental officials and donors</p> <p>‘The purpose of such short trainings should not be to make them professionals in two days in the field - but to make these officials from government and donor side better decision takers, as they would have an improved insight in the implications of their decisions, and a better understanding of why professionalism is needed.</p> <p>It would be possible to give them an idea of the bigger picture - effect of procurement process, lead times, policies when choice of drugs are changed, the effect of variations in funding’ (PK)</p> <p>Ad hoc</p> <p>‘In the Pacific Island Countries I believe most people that have roles that are involved in SCM do not receive any formal training that will allow them to fulfil their responsibilities. Mostly, it is through attending workshops, seminars, short courses and on the job training or mentoring & coaching by more experienced staffs.’ (AR)</p>
Establishing new cadres of professionals	<p>‘After decentralisation of procurement & SCM, various state Governments are pushing forward to strengthen their Procurement & supply chain management (PSCM) system by establishing Medical corporations, creation of special cadres for handling PSCM at state level (though on contractual mode) bringing in more professionalism, development of infrastructure including warehouses, strengthening LMIS</p>

	to give information on real time basis and integration of PSCM with prescription practice.....Still miles to go.....!!' (NK)
Resources	<p>'Lack of infrastructure [system, policy, guidelines, physical buildings]' (AV)</p> <p>'Moreover, with lack of skills & knowledge on SCM there is also lack of resources such as proper inventory management system, information system etc. The above somehow affect the effective functioning of SCM. If people are provided with adequate training and supported by appropriate resources then they will perform. ' (AR)</p> <p>'However, it is important to note that these HR concerns will not be addressed in the short term, implying that, the current existing systems should be attuned to meet the expectations of a robust health supply chain. One of the key drivers of any supply chain is information management. Information flow in the supply chain plays a critical role in enhancing overall operations. What this entails is that investment in information systems will enable us make cost effective evidence based supply chain decisions and eliminate wastage of resources. As long as our supply chains we manage are not visible and operate in isolation i.e lower level health facilities not looking at the bigger picture of the SC, no tangible benefits shall be observed even if we beef up HR. ' (LK)</p>
Managerial component of SCM	<p>Ignored managerial component of SCM</p> <p>'We have been investing billions of money in improving availability and access to essential drugs and commodities by procuring these, but putting peanuts for its management including that of investing in strengthening warehouses and strengthening HR component (training & capacity building on SCM, strengthening monitoring mechanism, creation of special cadres of SCM professionals, attractive package etc.). As per my experience in PSCM in the context of India, this area has always been a neglected area due to lack of politico bureaucratic interests, lack of accountability in the part of people managing SCM and good leadership.' (NB)</p> <p>'Lack of strategy in place to develop SC to what it is supposed to be. Technical professions are always more than important than support team.' (AV)</p> <p>This is more so important because at the moment there is no special cadre on PSCM except store officer/store in charge (either pharmacist/general undergraduate/graduates) who have been managing the stores for a long time without any formal training on PSCM including that on forecasting, procurement, supply chain etc which leads to poor management of essential drugs and commodities which often leads to stock outs, overstocking, expiry etc. (NB)</p> <p>'Health supply chain management requires both technical skills and managerial skills. Technical skills because you have to understand the commodities you are dealing with and managerial skills to plan and manage the resources (money, commodities, efficiencies in the system etc.). In my years managing supply chains in Kenya, I have found this combination of skills very useful. However, I was shocked when recently the government of Kenya was doing job audits that they were not promoting pharmacists with MBAs but rather those who had MSc in Pharmacy related disciplines. This then gives pharmacists no incentives to pursue management related causes yet that is what they need to be effective health supply chain managers. In the absence of recognition of such skills set, we find that the supply chain becomes disjointed. The pharmacists are relegated to forecasting and quantification, quality assurance and distribution whereas procurement functions and resource mobilization are given to other cadres. This lack of a harmonized approach does not guarantee commodity security as is the case in many public sector health supply chains. Again, because each cadre managing the supply chain sees only a portion of their supply chain piece, then they are ill equipped to have an overall understanding of the systems and again this leads to weak health supply chains. ' (RN)</p>

Question 4: Addressing human resources in health supply chains: HR as a barrier to effective health supply chains	
Concept/node	Quote(s)
Retention of workforce	Retention of workforce 'The pull of higher salaries in industrialized countries and the push of poor working conditions at home drive thousands of health workers to jobs abroad each year hence leaving a vacuum on SCM role for that respective countries. Yet developing countries face an escalating double burden of both infectious and non-communicable diseases and are in need of massive scale up of training and retention interventions and adequate staffing. (AK)
HR issues	<p>'However, as I suggested in an earlier posting, if we are assigned an SC responsibility, we should ensure that it is formalized and in alignment with the organizational goal. We should avoid leaving things permanently informal and/or ad hoc. Formalization forms the basis of accountability and strategy development. This in turn will justify our demand for organizational resources relevant to and commensurate with our responsibility. Also, in our day-to-day operations, we should remember to collect, analyze and use basic SC data as advocacy tools, at every opportunity, in our dialogue with key stakeholders; both internal and external.' (MS)</p> <p>'I was shocked when recently the government of Kenya was doing job audits that they were not promoting pharmacists with MBAs but rather those who had MSc in Pharmacy related disciplines. This then gives pharmacists no incentives to pursue management related causes yet that is what they need to be effective health supply chain managers.' (RN)</p> <p>'It means to me that a separate sets of skills, people with knowledge and the right qualification, dedicated cadre which means Position description and right remuneration. This group is an additional and new to support the health program just like an administrator, accountant and so on.' (ApolosiV)</p> <p>'There is a serious shortage of health workers across the world and has been identified as one of the most critical constraints to the achievement of health and development goals.' (AK)</p>

Appendix 5: Theme 2 participant responses

#	Responses to Question 1
1.1	<p>David Nyarko Duke on April 25</p> <p>Dear All Members, I've learnt a lot of important issues from our previous discussions. The question as to "Who is responsible for allocating resources to human resources for SCM in your country/organisation?" Is very crucial in the HR development of the personnel. In my Ghana experience, the allocation of resources lies in the policy direction by the Policy, Planning, Monitoring & Evaluation (PPME) Division of the Ghana Health Service (GHS). But this is done in consultation with Supplies, Stores and Drug Division (SSDM) of GHS.</p> <p>As the main body responsible for supplies in the service, the SSDM champions the policies that are put in place based on the medium to long-term strategy the service and the government have in place. The policy plan that has been championed by the division with support from USAID/DELIVER Project is the Scheduled Delivery in Ghana.</p> <p>David Duke MCIPS GHS, Ghana Sent via iphone</p>
1.2	<p>Senamede Prosper COMLA on April 28</p> <p>Bonjour, J'ai bien reçu votre message. J'avoue que je suis en train d'apprendre chaque jour à travers les discussions malgré que je n'envoie pas mes commentaires.</p> <p>Merci à toutes et à tous. Cordialement,</p>
1.3	<p>avosanibola@govnet.gov.fj on April 28</p> <p>Hi!</p> <p>* Who is responsible for allocating resources to human resources for SCM in your country/organization? In my context it is in silo:</p> <p>Central Medical Store - the head of the CMS only looks after its own interest. However when the shortages occurs at the hospital it is the the head of the CMS is taken to task.</p> <p>Referral Hospital - it is the head of the Hospitals. Many times their interest is not the SC as they focus more on strengthening clinical services and overall management.</p> <p>In looking at the above, we lack SC champion or focal point therefore SC will continue to face with challenges.</p> <p>* Who in your country/organisation advocates for strengthened human resources in supply chain management? What policies plans have they championed?*</p> <p>At the moment the head of the CMS because the onus of the shortages and wastage at facility level falls upon him/her. But the responsibility scope only finishes off at the CMS.</p> <p>Apolosi V Chief Pharmacist Vision: 'Healthy Population in Fiji driven by a caring Health Care Delivery System'</p>
1.4	<p>Imatowe@pharmasystafrica.com on April 28</p>

#	Responses to Question 1
	<p>Dear Erin,</p> <p>In many resource-limited countries SCM functions are rarely delineated from other service provision activities. For example, once commodities leave central medical stores to the periphery they land on the lap of whoever is in charge of the receiving facility (at different levels, be it regional or SDP level). At these levels, resources (including HR) are often pooled for the various facility needs. So, unless a country has a privatized distribution system (a number of countries are moving towards this), it may prove a challenge for a majority of persons on the forum to respond to question #1 in clear terms. Having said this, it is still important to have an idea of how various countries and programs are addressing.</p> <p>Regards, Lloyd</p> <p>Dr. Lloyd Matowe Program Director Pharmaceutical Systems Africa, Phone: +231.886.735.886, www.pharmasystafrica.com</p>
1.5	<p>Elvira Beracochea on April 28</p> <p>Good point, Apolosi. You demonstrate how important is to be specific in the way job descriptions are made and supervised so that the SCM functions are performed according to standards. Lack of efficient procedures to prevent shortages and handle them during emergencies that require increased consumption (such as an epidemic or natural disaster) prevent the staff you mention from doing their work well, coordinate with others in the supply chain system and getting the credit for doing it so.</p> <p>You are right. It takes a champion, a leader to start making the right changes. Maybe you are being called to be this leader, starting with your pharmacy. Make a model of efficient procedures. Other will notice and will want to know what you know.</p> <p>Best wishes, Dr Elvira Beracochea</p> <p>Elvira Beracochea, MD. MPH. President MIDEGO, Inc., "Achieve More in Global Health", 4710 Olley Lane, Fairfax, VA 22032, USA</p> <p>www.midego.com <https://exch1.123together.com/owa/redir.aspx?C=dc6e5213dca2409eabadc9528a4c7114&URL=http%3a%2f%2fwww.midego.com%2f> Phone:703-978-3331/ 703-337-8371, Fax: 703-991-8293, Cell phone:571-331-4158 Skype name: midegousa</p>
1.6	<p>Yambalu Mbalia Conteh on April 28</p> <p>Dear All, Thanks for the great contributions</p> <p>In My Country we run a parallel system of managing Pharmaceutical supplies under a Free Health Programme which caters for Children under five and Pregnant and Lactating mothers- such a category is of course the most vulnerable group for disease conditions and frequently managed illnesses in the Hospital. This programme has been in existence for over 4 years and was initiated by the Government; In this system The operations of the SCM runs in this way</p>

#	Responses to Question 1
	<p>1. The Forecasting is managed by the Director of Drugs a Pharmacist by profession who is working under the Directives of the Chief medical Officer in the Ministry of Health and he manages the Pharmacist down stream to the Health facilities.</p> <p>2. The Procurement is managed by UNICEF SCM staff who by profession comprises of a mixture of professionals ranging from Pharmacist to Logistics- However interestingly the Pharmacist within the Procurement has a background knowledge of Business administration - which facilitated the PSM activity greatly.</p> <p>3. The Inventory and Distribution is jointly managed by the Directorate and PSM staff under UNICEF.</p> <p>Such a parallel system has earnestly contributed greatly to capacity building of the Pharmacist who manages these supplies through a logistic information systems. The Overall Human resource Allocation is dependent on the Directorate of Drugs and medical supplies and the Allocation of Resources for health facilities depends on Donor contributions and a budget under the Ministry of Health.</p> <p>Warm Regards Ya, Mbalu Mbalia Conteh Procurement and Supply Chain Specialist UNICEF, Mobile: +23278952457, Ex 8030, E-mail: yconteh@unicef.org</p>
1.7	<p>Murtada Sesay on April 29</p> <p>Although it is tempting to look at the "Who" aspect of the question from a "personality" perspective, I think we should not forget to also look at the question from an "institution/structural" perspective. My experience is that it is the Finance department that is responsible for resource allocations generally - the old English saying " He who pays the piper calls the tune" comes to mind! If we are lucky to have a Departmental Head who appreciates the needs of HR for SCM, then we are OK.</p> <p>In this regard, therefore, I would like to suggest that it is perhaps not so much the "who", since personalities change frequently in the public sector, especially in resource-poor settings, but rather "how" resources are allocated.</p> <p>If this is the case, then it seems to me that we as SCM professionals should be more strategic and pro active in how we influence the resource allocation process generally, including HR.</p> <p>Murtada M. Sesay BPharm. MSc. MMI. MCIPS.</p> <p>Health Supply Matters [Control Selection - Control Spend - Control Service] 38 Milton Margai, College Road Goderich, Freetown, Sierra Leone, Mobile: +232 79 82 72 00, Email: kindiatown@hotmail.com</p>
1.8	<p>avosanibola@govnet.gov.fj on April 29 Thanks Elvira</p> <p>Appreciated sinerely the concern and the encouragement.</p> <p>Humbly request: Is there any existing descriptions available that we can learn and developed ours?</p> <p>Apolosi V Chief Pharmacist Vision: 'Healthy Population in Fiji driven by a caring Health Care Delivery System'</p>
1.9	<p>Asaeli Raikabakaba on April 29</p>

#	Responses to Question 1
	<p>Hi everyone,</p> <p>To complement Mr Apolosi's discussion, recruitment is not part of the head of CMS responsibility. It is always a top to down approach which somehow affecting the evenly distribution of HR within the health system. The power and authority lies with top managers when dealing with HR but responsibilities and accountabilities of stock availability & accessibility lies with the head of SCM.</p> <p>The organization structure is not clear with undefined position descriptions of SCM cadre. Head of CMS may conduct his/her own analysis and submission for more SCM positions but policy limits their power to recruit more staffs.</p> <p>Kind Regards, Mr Asaeli Raikabakaba</p>
1. 10	<p>Elvira Beracochea on April 29</p> <p>Yes, Apolosi. Glad to help. There are many examples of job descriptions and process checklists to ensure staff deliver quality services. For example, I am copying the standard checklist we use to train dispensers. The standard checklist is used as is and then adapted to local needs and standards. Why don't you try it yourself a few times and then have your team use it for a day and let me know what you learned. Please notice that in our Online Pharmacy Management Training Program we use the word "guest" to refer to patients to remind staff that we treat patients as if they were guests in our homes.</p> <p>MIDEGO's Standard Dispensing Quality Checklist</p> <p>Quality Standard (QS): Guests need to know how to take the medicine, when, why, and for how long every time.</p> <p>Steps for meeting the QS:</p> <ol style="list-style-type: none"> 1. Smile 2. Invite the guest to feel comfortable 3. Ask for ID card 4. Confirm medicine prescribed 5. Explain the effect of the medicine 6. Explain when and how often to take the medicine 7. Explain any side effects 8. Ensure guest has a safe place to store medicines away from children 9. Confirm guest's understanding 10. Acknowledge everything that is right 11. Repeat instructions about what the guest forgot or got wrong 12. Ask for questions and other needs 13. Value-added: Provide condoms and other seasonal needs 14. Confirm name and medicine on label match prescription 15. Scan ID card and medicine, hand medicine to guest and return ID card 16. Smile and end visit reminding guest to call if there are any problems with the medicine <p>Best wishes,</p> <p>Dr Elvira Beracochea Elvira Beracochea, MD. MPH. President MIDEGO, Inc. "Achieve More in Global Health", 4710 Olley Lane, Fairfax, VA 22032, USA</p> <p>www.midego.com <https://exch1.123together.com/owa/redir.aspx?C=dc6e5213dca2409eabadc9528a4c7114&URL=http%3a%2f%2fwww.midego.com%2f></p>

#	Responses to Question 1
	<p>Order <http://www.springerpub.com/product/9780826105691> my book, Rights-Based Approaches to Public Health to improve how public health programs work for all; Proceeds from the sale of the text go towards the APHA Paul Hunt Scholarship to support student attendance at the Annual Meeting of the American Public Health Association.</p> <p>And to start making a bigger impact in your global health practice...</p> <p>Order <http://www.midego.com/midego-bookstore> my book "Health for All NOW" available now. Proceeds from the sale of this book fund global health online study scholarships of health professionals that want to become global health leaders.</p>
1.11	<p>tunde omoluabi on April 30</p> <p>Dear Elvira,</p> <p>Thank you so much for the specific checklist just now. My organisation presently has a similar list, how ever the major challenge is in maintaining the tempo of quality of service by all pharmacists at the counselling room. Owing to the high amount of guest seen by each pharmacist, we often get carried away by the number rather than the quality of service, this is also discouraging when management assessment is based on turnover instead of impact made. Please can you share with me by way of encouragement on how best to balance this situation.</p> <p>Cheers</p> <p>Tunde Omoluabi Senior Pharmacist UBTH Nigeria. Sent from my BlackBerry wireless device from MTN</p>

QUESTION 2: April 29, 2014

Which of the building blocks poses the greatest challenge for your country/organisation? Why?

#	RESPONSES TO QUESTION 2
2.1	<p><u>Murtada Sesay</u> on April 30</p> <p>My experience is that Professionalization is currently the greatest challenge, because this block usually defines the credibility profile and clout required to influence the structure and positioning of the other blocks. Unfortunately, the relative number of Certified Supply Chain professionals, compared to the total number claiming to perform this function is still too small, in my view, although the situation is gradually improving.</p> <p>I think Professionalism brings the necessary competence, integrity, efficiency, and clout, all of which then enhance stakeholders trust and confidence, policy robustness and buy-in, and workforce development and performance. Professionalization is therefore the building block in which I think more resources ought to be invested as a priority. Indeed, operations-focussed organisations such as UNOPS and UNDP and other UN organisations have recently realized this, in their quest for Supply Chain performance excellence, and are therefore investing significantly in the "certification" of personnel with roles within the supply function.</p> <p>Murtada M. Sesay BPharm. MSc. MMI. MCIPS.</p> <p>Health Supply Matters [Control Selection - Control Spend - Control Service] 38 Milton Margai, College Road Goderich, Freetown, Sierra Leone</p>

#	RESPONSES TO QUESTION 2
	Mobile: +232 79 82 72 00 Email: kindiatown@hotmail.com
2.2	<p>avosanibola@govnet.gov.fj on May 1</p> <p>Hi Erin,</p> <p>I wish there is another block before block 1 which label as establishing supply chain HR/program.</p> <p>Why? Policy needs to realize this first that 1. SCM is a new way of managing logistics 2. needs attention and recognition 3. Needs to be implemented.</p> <p>To answer your question and in my context engaging the stakeholder to advocate the issues of SCM will not be a problem if the policy [aspirations] is in place.</p> <p>Thanks Apolosi V Chief Pharmacist Vision: 'Healthy Population in Fiji driven by a caring Health Care Delivery System'</p>
2.3	<p>avosanibola@govnet.gov.fj on May 1</p> <p>Thank you for the insight. I wonder why UN agwncies that focus on health development activities have not invited UNDP, UNOPS into their health system strengthening program activities and with i have learned, UNOPS, UNDP and others they are expert in this area? Just curious! Sent from Samsung Mobile</p>
2.4	<p>Murtada Sesay on May 1</p> <p>The structure of UN programming is usually variable and country-specific but, increasingly, there is a move towards "Delivering as One", an initiative championed by former secretary General Kofi Anan which explores how the United Nations system could work more coherently and effectively together.</p> <p>I do however know, for example, that in The Maldives, since 2012, UNOPS and WHO have worked specifically together on a project called Strengthening Health Sector Public Procurement and Supply Chain Capabilities. This project has effectively brought together the comparative advantages of the two UN entities i.e normative and operational respectively. You may like to read a bit more about this project at http://www.searo.who.int/maldives/strengthening_procurement/en/</p> <p>Murtada M. Sesay BPharm. MSc. MMI. MCIPS.</p> <p>Health Supply Matters [Control Selection - Control Spend - Control Service] 38 Milton Margai, College Road Goderich, Freetown, Sierra Leone Mobile: +232 79 82 72 00 Email: kindiatown@hotmail.com</p>

QUESTION 2: SURVEY MONKEY POLL: May 1, 2014

Which of the building blocks poses the greatest challenge for your country/organisation? Why?

On May 1 From Erin Hasselberg

Dear IAPHLeR's,

Thanks to those who have contributed to Question 2 related to the HR Building Blocks.

As an alternative, anonymous way of contributing to this conversation, we're including a link to a ONE-QUESTION survey that asks the same question

*Which of the building blocks poses the greatest challenge for your country/organisation? and Why? *

COMPLETE SURVEY HERE: <https://www.surveymonkey.com/s/IAPHLHR4SCMQ2>

I've also attached this week's conversation guide with additional descriptions of the blocks and related resources for your reference.

Be on the look out for Question 3 where we'll discuss the HR for SCM

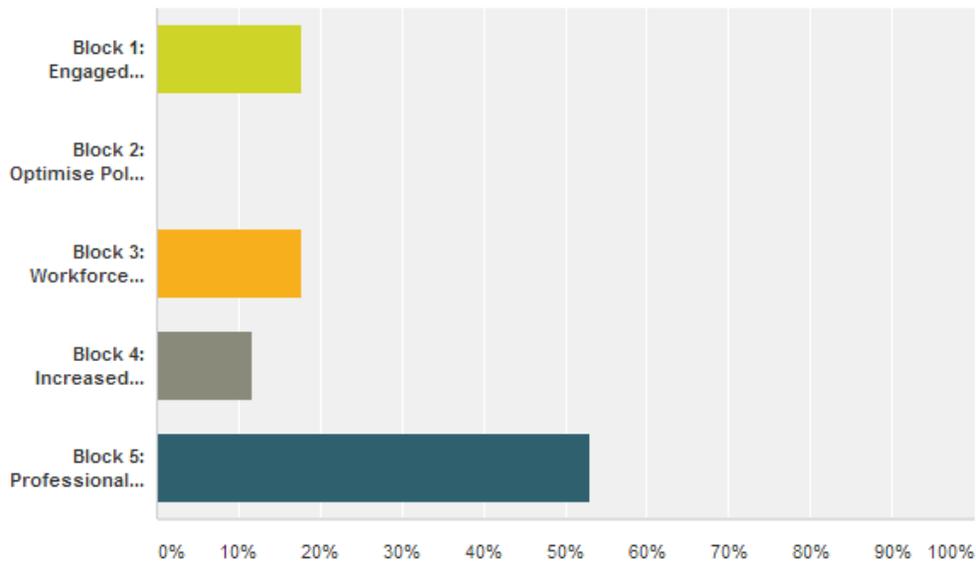
Assessment and your experiences with it later on Thursday May 1!

Thanks all!

Erin

Which of the building blocks poses the greatest challenge for your country/organisation? and Why?

Answered: 17 Skipped: 0



Answer Choices	Responses
Block 1: Engaged Stakeholders	17.65% 3
Block 2: Optimise Policy & Plans	0.00% 0
Block 3: Workforce Development	17.65% 3
Block 4: Increased Performance	11.76% 2
Block 5: Professionalisation of SCM	52.94% 9
Total	17

Comments (15)

Block 5 comments: Professionalization

- 2.5.1 Here in our region SC is evolving and people need to understand Global changes and implementation of systems and procedures. We need to have SC professionals in Public and Private Sector
- 2.5.2 Because this vital activity must be regulated, protected and professionalize. Only skilled personnel with specific background must be part of this close profession. This field required a multidisciplinary link. All specialties do have a required position in the cycle.
- 2.5.3 Ministries do not see the importance of this role and overtax clinical people with SC tasks that could be done by SC professionals
- 2.5.4 For anyone who wants to specialize in supply chain management of health commodities, it will be very difficult to get he/she should search for a scholarship chances is study simply the general SCM courses at business schools and customizes to the health scm. Thank you!
- 2.5.5 No clear definition of what this entails.
- 2.5.6 In Ethiopia, as well as in majority of the countries I we saw from discussion, the supply chain is incorporated in the jobs of other professionals like pharmacists, druggists, nurses, accountants, etc. to broke this usual habits, it needs high political commitments among governments because other professionals who do SCM jobs as well as managers at different institutions will not be volunteer if there is no strong policies and strategies by governments.
- 2.5.7 There is no institute or faculty that gives studies or research in the field of SCM in my country
- 2.5.8 As a strategic approach in HR for SCM block 5 poses a greatest challenge. The MoHSW is now working hard through established roles or set of responsibilities and competencies as profession through newly established Logistic Management Unit. It is still a new and rare profession in pharmaceutical and medicine supplies Management.

Block 4 Responses: Increased Performance

- 2.6.1 While all the building blocks stated are important. We in Ghana's Health Sector have worked on most of them and review as we implement. As we put things in place, there is a critical need to put supportive mechanisms in place to identify and enhance SC workers abilities to successfully carry out their work and also sustain and improve performance.

Block 3 Responses: Workforce Development

- 2.7.1 This is as a result of how SC is perceived at the higher level in planning processes of most programs and projects. It's an established fact that logistics is embedded in all programs and projects that are executed. Yet, planners do not give adequate attention and inclusion of SC staff in their programming which in most cases result in logistical challenges. The inclusion of SC staff means there's provision for training and development so as to acquit themselves with the requisite tools for improved service delivery
- 2.7.2 The staff turn-over rate in Tanzania is extremely high. People are trained on supply chain management, actually training comprises a big portion of budget in supply chain organizations in Tanzania yet the challenges regarding availability of high quality staff at the health facilities are still persistent. In most cases, the trained staff who perform really well end up being hired by the international organizations in most cases due to the higher salaries offered. So, I believe once this has been addressed, a big chunk of SCM challenges in Tanzania will be resolved.
- 2.7.3 It takes time, resources, and sustained attention and commitment. You can never say "There, we are done , we have built wick force capacity and we can stop now. You have to keep doing it, and do it again.

Block 1 Responses: Engaged Stakeholders

- 2.8.4 Because donor coordination is essential to make sure they all do not work in the same province and do not undermine the SCM system
- 2.8.5 They are unable to put into operation plans & policies that are validated due to administrative bottlenecks. again its due to having stake holders @ positions of responsibilities where they are incompetent i.e. having non professionals occupying positions of responsibilities who thinks that they are bosses & would not want to listen to professionals.
- 2.8.6 In my country, we have systems laid down for a lot of things, SCM included. However, the leadership that is to drive to vehicle (systems) is lacking for a couple of reasons: 1. They do not see or are not connected to the problem statement. 2. Political will is weak for real/positive change so Stakeholders already feel it is a lost cause from the onset. Technical Stakeholders may have the passion but the political class who should take ownership and drive the process forward are lacking in understanding and desire for improvement

QUESTION 3: May 2, 2014

If you have conducted the HR for SCM Assessment, what did you learn? What were the results? What are the next steps?

or

If you haven't conducted the HR for SCM Assessment, now that you've been introduced to the building blocks and the importance of a systematic approach, do you think this assessment would be of benefit to you? Why? What might be your next steps to get it implemented?

#	RESPONSES TO QUESTION 3
3.1	<p><u>Kevin Pilz</u> on May 8</p> <p>In Mozambique, we are trying to strengthen the supply chain through implementation of our Pharmaceutical Logistics Strategic Plan, recently approved by the Ministry of Health. One component of this plan is how to reform our approach to Human Resources for the supply chain - creating supply chain cadres and pre-service training programs, strengthening pre-service training in logistics for other relevant cadres, developing clear job descriptions, improving motivation and retention, etc. We are now developing the Implementation Plan for the Strategic Plan and we adapted the HR for SCM Assessment Tool to help us identify the key specific objectives and activities. The assessment was implemented by the Central Medical Stores with support from USAID and the SCMS Project. The tool helped us identify the key questions and methodologies to apply, which we needed to adapt to our context. The assessment was very successful and provided 18 key recommendations that we validated and finalized with the government stakeholders and partners through a final workshop. The recommendations and associated activities identified are being directly integrated into the Implementation Plan. Next we will budget the activities and then the real work begins - implementation! So, the tool was very useful in helping the MOH and partners in Mozambique to identify what needs to be done for HR for SCM.</p> <p>Two challenges that a country may face to decide to implement the tool - first off, it is time intensive, taking us about 3 weeks with a 3 person team. Second, I think people sense generally what the "HR for SC problems are" (insufficient staff, insufficient capacity, poor retention, etc.), so they may not see the value of the tool. But, for us having a structured and documented assessment of the challenges in HR and the recommended activities - with consensus between the government and donors - will be essential to moving the actual implementation forward.</p>

Appendix 6: Theme 3 participant responses

Post 1

Dear Dr Andrew and Colleagues,

I tried to share you what is happening in pre-service, in-service and postgraduate training in health SCM in Ethiopia as follows:

In pre-service training, logistics and supply chain management degree is offered at Addis Ababa University (AAU) and Bahir Dar University in Ethiopia. AAU, School of Commerce also launched masters training program in this field last year. However, all these training are very generic – doesn't address the unique features of health commodities. Here our government acknowledging this fact established separate agency which avail quality assured essential pharmaceuticals and medical supplies at affordable price in a sustainable manner.

Across all the health care system - from primary health care unit such as health center to tertiary care such as specialized referral hospital, druggists and pharmacists are involved in managing these commodities and they also dispense to the users with appropriate counseling. After observing the high involvement of health professionals predominantly pharmacists in health SCM, I reviewed the harmonized undergraduate curriculum of almost all health professionals and found that only pharmacy training having better number of courses and credit hours in addressing health supply chain management than any other disciplines though it is not adequate compared to the expected roles and responsibilities of the graduates. Besides, other supportive courses that deals with stability, quality and use of these products gives pharmacy personnel especially pharmacists' strong health background to apply their knowledge in different components of the logistics cycle of health commodities.

Here both private and public owned universities/colleges train pharmacy personnel at diploma and degree level, whereas only public owned universities train at masters and PhD level. However, the health care system have challenges of shortage and high turnover of staff, weak record keeping and reporting, quality of consumption data for quantification, inadequate training, and poor tracking of expiry and delayed disposal of obsolete and expired products. In my view, these problems are emanated from the pre-service training, health care structure and motivational related factors.

To complement training related gaps, professional associations in collaboration with responsible government agency and partners are providing in-service training for various professionals (not only for pharmacy personnel) at various levels. Some experts who work at high and advanced level were also trained abroad. Recently, Jimma University has launched postgraduate program in pharmaceutical supply chain management which is designed to train high level leaders in the area of health SCM. My university, AAU is also on the way to launch this program though the collaboration of School of Pharmacy and School of Commerce.

I hope my colleagues from Ethiopia will be complement if there is anything missing.

Regards,

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Post 2

Dear Members-

In Zimbabwe, we incorporated Supply Chain Management modules in the pre-service training of both Pharmacists and Pharmacy Technician. We are also planning to incorporate the same in the nursing school curriculum. The SCM modules use the basic concepts and then specifically focus on health commodities.

In addition to that we also train the students on specific Distributions and LMIS systems that are used in Zimbabwe. We have trained lecturers who are conducting the lessons and as Ministry we also facilitate some lectures on policies and also on specific distribution systems and LMIS

All the activities have been funded by USAID/JSI DELIVER project. Find attached some of the materials used.

The process started by engaging the training schools on the ministry view of the curriculum because the Ministry has noted that we spent a lot of money in in-service training, we are doing a 3-week training for those who had not been trained on SCM and Medicines Management.

Forward Mudzimu

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Post 3

Dear all,

I am Solomon Abdellah from Hawassa university, currently at Jimma university. I thank Mr Dawit from Addis Ababa university; for his short and precise explanation about the situation in Ethiopia. As I am one of those students who are attending the post-graduate program on pharmaceutical supply chain management, I have got what pharmacists and other health professionals are lacking in this area of practice.

As Mr. Dawit indicated, only pharmacists and pharmacy technicians are getting courses related to this field. But as nurses and laboratory technologists/technicians are also involved, they should also get these courses.

In my opinion, higher education like in Jimma university cannot address all health facilities supply problems rather will help for the development of this field by researching and teaching other cadres on this field. So, it is better to focus on undergraduate and diploma programs.

Solomon Abdellah

Jimma University

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Post 4

In Nigeria, the pre-service training in health supply chain management has been implemented within Pharmacy schools in 12 universities. Currently, the same initiative will be extended to nineteen universities with a bachelor degree in Medical laboratory science programme.

For continuous education, we have the Institute of Public Health (IPH), Obafemi Awolowo University offering a short course in logistics management of health commodities with 10 CPD points. We have also worked in collaboration with the in-country professional accreditation bodies in medical laboratory science and K4Health as lead to develop an online medical laboratory supply chain management course with 2 CPD points. There are plans to include the Schools of Health Technology where Pharmacy technicians, medical laboratory technicians and Community health workers are trained in the initiative. All activities with funding by the USG.

Bayo ADEKOLA

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Partnership for Supply Chain Management (PFSCM)
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Post 5.

This is somehow similar to degree programmes and masters programmes being offered in Zambia. They are very much commerce biased and unlike the Ethiopian curriculum that is trying to abridge the commerce and health, what is very pronounced in Zambian Universities is Public health Courses which am very sure have little to do with the tailor-made supply chain for health logisticians.

I wished we could also use the Ethiopian model of curriculum when it comes to supply chain for health products even though the principle would be the same. This will provide a cadre of staff in the health sector that will see to it that there are no unnecessary stock outs by use of correct data for quantification of health products.

Regards,
Evelyn

Post 6

In Sudan, still there are huge challenges on programs related to SCM. We have one public health institute and one CPD and more the 10 points to graduates assistant pharmacist, but the module still poor & there is no pre-service or in-service training modules. But expanding the number of professionals in pharmacy in general is so increased. Many efforts are now needed to strengthen supply management system.

Mr.Mohammed Y.A. Musa
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National Health Insurance Fund, Khartoum, Sudan, P.O. 13267

Post 7

Hello Colleagues,

Ghana has in the past consistently applied in-service training (in the form of workshops away from the duty station) to the problem of staff inadequacy for logistics and supply chain management roles and responsibilities. This approach is quite expensive in resources required, and in lost access (care) hours for the clients visiting facilities manned by staff on training programs. Where the staff are part of the clinical care team like midwives and community health nurses, their time away from the clinic/health centre/ CHPS compound where they are the key service providers makes this form of training very expensive for the patients who may have to go without care because the care-giver is away at a workshop. Pharmacists and support staff at the pharmacies have to also undergo these trainings because their training from school did not adequately prepare them for the supply chain management roles and responsibilities that formed a core part of their daily job schedules.

In 2011 through to 2012, the USAID | DELIVER PROJECT raised this concern among several stakeholders and started the discussions for supply chain management to be included in the curriculum of nursing and pharmacy training institutions. In 2013, a meeting of the deans of the pharmacy schools, and policy makers agreed that a gap existed between real field responsibilities of graduates, and the theoretical knowledge they acquired in school. This was particularly wide in the area of supply chain management. The premier school of pharmacy in Ghana welcomed the improvement to the curriculum by adding supply chain modules, and in this academic year (2013/14), the USAID | DELIVER PROJECT has worked with Kwame Nkrumah University of Science and Technology (KNUST) to include modules for supply chain management learning in the curriculum.

Pre-service training in supply chain management has therefore taken off in Ghana, and thus the students graduating in 2014 at KNUST, and at Central University College (CUC) which KNUST accredits will all come out of school with a good working knowledge of supply chain management principles and practices.

The project is also working with the Nurses and Midwives Council of Ghana to also start pre-service training this year. The curriculum has been improved with the addition of supply chain modules, and trainers will be trained in the next month to

support training of institution staff (over 100 public and private institutions for training of nurses, community health nurses, and midwives). Additionally, continuous education through established institutions like the School of Public Health, Univ of Ghana, Legon is going to start with certificate programs in supply chain management, and also quantification of health commodities.

Aside all these formal pre-service, and in-service approaches, we are still mindful of the gaps in the current field and have therefore incorporated OJT for logistics management in supportive supervision activities of concerned directorates and programs of the Ghana Health Service to bridge gaps found in facilities.

Advocacy with stakeholders for them to appreciate the HR gaps, and needs to meet commodity security expectations must continually be done to get understanding around the problems, and to enable harmonization of strategies for resolution of the issues. A focused capacity development team is also important to execute a comprehensive pre-service training intervention.

Best regards,

Egbert

Egbert K. Bruce

COUNTRY DIRECTOR

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Post 8

Dear all,

A number of assessments in different countries indicate that the approach described by Egbert below is long overdue. In a number of countries in Africa for example, pharmacy curricula have remained focused on basic medical sciences- Pharmacognosy- Pharmaceutics-Medicinal Chemistry – just to mention a few. These courses have been the building blocks of pharmacy for decades but contribute a small fraction of the requisite skills of the African Pharmacist today. When I had a conversation on this with a Senior Lecturer at Makerere University in Uganda, only yesterday, he mentioned that they have recently included SCM modules in their 4-year B. Pharm Program. I congratulated him for this and asked him what the duration of the course was. He answered that it was one week. I then asked him to give an estimate of the functions of the Ugandan pharmacist that were SCM-related. He said 80%. So clearly there is a disconnect between what we are training our students in pharmacy schools and what systems require of them when they graduate.

Increasingly, a number of pharmacy schools are realizing this and attempts (some token) are being made to include SCM courses in pre-service training. Pharmacy school in Tanzania, Malawi, Zimbabwe, Kenya, Nigeria, and Ghana as mentioned by Egbert below, now have some SCM management course in place. In Liberia, we have gone further. We have worked with the School of Pharmacy, University of Liberia, not only to include a whole semester module on supply chain management but we have added a whole semester of an experiential learning program on SCM. During this semester, pharmacy students spend lengthy periods of time on a rotation in the Supply Chain Management Unit, the Central Medical Stores, with international partners, and in key healthcare facilities in the country. After they graduate we have observed that it is much easier to induct our students into their key roles and functions, which mainly encompass SCM.

I also agree that nurses and midwives should have exposure to SCM courses during their pre-service training, but the depth and breadth of these need to be assessed accordingly. In an ideal world, they should be left out of this; this is not their domain. But given the reality on the ground, they perform the bulk of the SCM functions, particularly downstream, and as such they should be adequately equipped for this. As a summary point, we still need to have much debate on how to finesse this approach. A wholesale change of pharmacy curricula across the developing world will not sail without facing resistance.

Regards,

Lloyd Matowe

Dr. Lloyd Matowe

Program Director, Pharmaceutical Systems Africa, Phone: +231.886.735.886, www.pharmasystafrica.com

Question 2:

Post 9

I think people can be trained but still political interests do not allow us to improve SCM in Africa.

pillarpharmacy2011@gmail.com

Post 10

Dear all,

The discussion of SCM and of it being included as a course component in all health care training is cardinal-- I think staffers doing SCM should be selfless and be engaged in academics. I am a living example working as clinical pharmacist as well as a training co-ordinator in Namibia. It enabled me share real situations.

Regards,

Mulenga Lwansa

Post 11

Dear Andrew,

Pre-Service

From the School of Health – this is not happening to expectations. They focus more on inventory management at health facility. There is no specialized SCM school in Fiji. This are needs more focus and I am appreciative the stories from other countries.

In-Service

Ad hoc basis which depends on funds and needs of the market. Specifically for health SCM – we usually send our purchasing team to internationally organized workshops which is the only opportunity we have.

The other one we had recently with our pharmacy assistants is in conjunction with Canberra University which is a 8 month program which covers elements of the SCM

Inventory management at hospital levels – is a regular one in which our pharmacist conducts to nurses and other officers.

Barriers:

Politically it is not being realized the value of SCM in impacting health outcomes. It is only addressed in silo but not looking at the total system.

In my country the custodians of the procurement regulation is our Ministry of Finance – is it in their interest the health outcomes? Many countries have identified that procurement regulations custodians spend too much time in policing compliance rather than ensuring it meets government social objectives.

The custodians of the laws that governs procurement and obviously SCM need to be the drivers of change in SCM then the whole system will change.

Thank you,

Apolosi V, Chief Pharmacist

Post 12

I would like to raise two questions regarding pre- and in-service education for health staff generally but SCM in particular:

-The first question is "Who pays for pre service; the Ministry responsible for Education or that responsible for Health"?

-The second question is "How do we guarantee that those who have received pre service SCM education will indeed be absorbed in the health service and deployed to SCM specifically?"

There are currently worrying inefficiencies in the employment and deployment of health staff in my country. I was at this

year's swearing-in ceremony of newly qualified health staff and, during the Vote of Thanks; the issue was raised that, one year later, those who had qualified the previous year were still waiting to be officially absorbed into the service. The consequence is that there is a lot of leakage into other areas of work. This is a problem that needs reflection and resolution.

Murtada M. Sesay BPharm. MSc. MMI. MCIPS.
Health Supply Matters
Freetown, Sierra Leone, Mobile: +232 79 82 72 00, Email: kindiatown@hotmail.com

Post 13

Special Schools for SCM is not the key issue. The key issue is for MOHs to have departments of SCM. Currently, SCM is everybody business in MOHs. SCM experts are not been given the opportunity to work because of buraucracy of service.

This has led to the impact of SCM experts not impact positively in most countries SCM. The Store is most often the most learnt in most MOHs SCMS.

Regards. eltonokpo@gmail.com

Post 14

Hi Colleagues,

To add on Mr Apolosi's post, I think another area that we lack currently at the in- service level is addressing a detailed competency level of SCM to each health care worker. We may lack competency based training. Various high-performance organizations realize that their success depends on how capable their people are. They also recognize that formal education doesn't necessarily equip employees with the appropriate skills to thrive in the workplace. The solution lies in training staff to meet the specific requirements of your organization. This is where competency-based training comes in.

Another barrier that I may add is organizational structures are not fluid to adapt to changes or any shift to organization goal. There are also issue with leadership, centralization and finance.

Cheers.

Kind Regards,
Mr Asaeli Raikabakaba

Post 15

In addition to Murtada Sesay's questions; I would like to add one more questions to those who add SCM course as pre service training:

Do you have a mechanism to follow any positive impact that the pre service training has brought to the SCM system?

Teshome Dires Adane
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Post 16

Dear All,

Pre-service training (inclusion of SCM in curricula etc) is necessary but only manages to establish a platform from which in-service training is able to create a SCM cadre who is able to meet the expectations expected of them by stakeholders. To expect pre-service training alone to create a SCM cadre; is expecting a lot from this form of training. Pre-service training should be more of an eye opener to the health professional of what is expected of them.

Therefore supply chain agencies should take the initiative of training; in-house these pre-service trained health professional

so that a relevant and well equipped SCM cadre is created to benefit the agency and the respective country.

Regards
Rennie Shonhiwa-Chikwanha

Post 17

Dear Colleagues;

In many of our countries, the SCM is not organized as sector independantly with others. So the in-service training is important.

To know if the pre-service education will be used in the related SCM domain, this is related to each work environment.

Generally we agree to work were we find the post, and during the contract we try looking for the specific SCM sector offer, for the next interest.

I think this was helpful.

Best,

Pharmacien Francois M.R.Tshitenge/DRC
Mails: fmrtshimal@yahoo.fr, Tel: +243 (0) 81 69 95 713, Skype: tshimal

Post 18

Dear Colleagues,

I couldn't agree more with the points raised by Dr. Matowe and others. Indeed, SCM practitioners need to be trained; whether it is through pre-service or in-service. First, there is the capacity needs that have to be met to enable the SCM practitioners and others bridge the gap between their responsibilities and the skills required to assume these responsibilities. Second, I also agree that SCM units should be set up in MoHs to provide leadership and guidance for SCM undertakings. However, I think there is a wider perspective to the shared vision of SCM practitioners. That perspective, I believe, is the institutional demands for SCM. I imagine that a full process would be required to comprehensively address this lingering demand. Countries will have to begin the thought process to make SCM more visible at sub-national level (i.e., provinces, counties, district, etc.). This could take the form of a team of dedicated personnel within sub-national health structures or a full extension of MoHs SCM units at the sub-national level.

Visibility at these sub-national levels, (both physical & institutional) is required to ensure the 2-way flow of activities and information that are essential for an effective SCM system. Additionally, such visibility will strengthen efforts to have SCM gain the institutional foothold that it deserves in countries. In Liberia, this is being undertaken with the buy-in of the MoH. We are delighted and the prospects remain promising.

More needs to be done to move this forward; notwithstanding, I would think SCM practitioners could begin the conversation within countries. SCM has turned the corner and is now an imperative in countries. As such, we must begin to design mechanisms to address this imperative. While we continue to exert efforts in meeting the staffing inadequacy for SCM, we should also begin to ponder on how we tackle the institutional inadequacy as well.

Yours,
Kaa B. Williams
Project Management Specialist-Malaria & other infectious diseases
USAID/Liberia, kwilliams@usaid.gov, 077796137, Ext-7488

Post 19

Dear Colleagues,

I'm highly impressed by the level of discussions going on. I would like to add a little to what my colleague from Ghana mentioned about the pre-service and in-service trainings. Although USAID/DELIVER PROJECT is supporting in this area including M&E, I believe that the academia should be brought onboard so as to blend the two for a much more improved HR for SC staff. The University of Science & Technology, Kumasi (KNUST) is playing a key role in training professionals in SC. But a blend of this with practical issues such as what we have on this platform would help improve staff level of

competence and improve service delivery.

Warm regards.
David Duke Nyarko (MCIPS)
GHS, Ghana

Post 20

Time constraints, money, non-awareness of the available professional bodies that undertake training courses in SCM are some of the challenges I know are encountered by many SCM workers in Nigeria. Especially after school, before service or for continual capacity development during work career, be it health or non health SCM staff.

Many humanitarian logistics staff colleagues have asked me for available bodies for professional development in SCM. I had in the past suggested Certificate Courses in Hum Log by Int of hum logistics, CIPS London prof dev routes, CIPSON Nigeria routes, SCM trg in UNDP, CITL london, etc. On the part of Government recognition of SCM had been very low in the past in Nigeria. Slight improvement started when the SCM cadre in the Ministries was given autonomy; hitherto it was under either Finance or/and Administration. This way the level at which a SCM staff member can attain in his or her career is limited. Emphasis is still more on Procurement and less on Warehousing, Inventory and Logistics element of the SCM. All the above are barriers to the improvement of SCM trg and Development.

Thanks,
Engr Benedict Oloruntola MIET, MCIPS.
UNICEF National Warehouse, Federal Medical Stores, Osborn Lagos.

Post 21

Dear Andrew and IAPHL colleagues,

This is an interesting discussion. To add on what Dawit has said, there are also basic supply chain training for nurses at selected training institutions and a national forum/task force to understand the country situation and support in the identified key SCM areas so as to bring better impact in health SCM in Ethiopia in the near future.

Best, Dessalegn

Post 22

I think Mr Sesays questions below are excellent ones:

"I would like to raise two questions regarding pre- and in-service education for health staff generally but SCM in particular: - The first question is "Who pays for pre service; the Ministry responsible for Education or that responsible for Health"? -The second question is "How do we guarantee that those who have received pre service SCM education will indeed be absorbed in the health service and deployed to SCM specifically?"

I think the answers depend very much on the country context. But they need to be answered and our strategies need to be evidence based. In Ethiopia, the DELIVER project is trying to answer the 2nd question at least in part. While we cannot guarantee recipients of PST will be hired - thats a policy issue for national and regional authorities - we can, at a minimum, generate evidence as to whether or not that is currently the case. Because, if they are not, then PST is not a cost-effective strategy. We provided PST to hundreds of about to graduate pharmacy technicians last year and are now following up to determine what they are doing, and if they received benefit from the training.

We cannot say PST is cost-effective until we know what % of those graduates were hired to work in the sector, within six months and a year of graduation. We hope to have those answers soon. And the answer for Ethiopia will not be the same for other countries, and may not even be the same for Ethiopia a year or two from now.

As to Mr Sesay's first question, our experience has been that we as a project pay for training (although certainly Education establishments pay in kind with staff time and facilities) but the costs are far less than in-service training. There is no per diem, no travel costs for participants, and no opportunity costs due to removing health workers from their posts. And students are happy to receive the training, seeing it as something that may make them more employable. And a note, our

program is still in the "pilot" phase for the reasons already noted - it is not a "national" program.

In summary, I think PST can be an effective and cost -efficient strategy but we should generate evidence in our own contexts that this truly is the case.

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Post 23

In addition to the earlier information about pre-service in Ghana and the questions asked by colleagues, I will like to add the following to the discussion; - the modules currently being taught are for the semesters (2) in the final year. The module for pharmacists is more detailed than the one for nurses, which is enough for them to execute any storekeeping function in a health centre. In-service is still on the cards, and exercised very selectively through OJTs esp to fill gaps observed during supportive supervision activities.

- the cost of pre-service in our case was borne by the USAID, and after the start up costs (developing curriculum, training the trainers, providing literature etc), like with any course in the program, there is minimal cost to sustain the course, and that is expected to be taken care of by the university. Ministry of Education and user fees takes care of the cost in the public facilities eg in KNUST, and the private facilities eg CUC depend largely on user fees.

- our objective of providing some degree of exposure to SCM is to stimulate appreciation and life long-learning, to appreciably equip those who may be assigned positions in the health sector to do better. There are aspects of SCM in every branch of pharmacy, so no matter where the graduates find themselves, they will be more able to add value to the work at hand. We do expect that some pharmacy graduates will not find positions in the health sector, but their rounded knowledge in management (with addition of SCM) will make them function well in any enterprise.

To Teshome's question of impact, we just started so we are yet to see, but comments from students when they interacted with practicing colleagues on the field indicate that their colleagues in district and regional hospitals and stores told them that they will be better equipped for their roles in the facilities if they had also taken the SCM course in school. So we hope for positive impact in the future when graduates who are taking this course get into the field.

Egbert