DEVELOPMENT OF A CONCEPTUAL FRAMEWORK FOR THE CONTROL OF HEALTHCARE ASSOCIATED INFECTIONS IN FACILITIES MANAGEMENT SERVICES

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ABSTRACT: This paper articulates some of the work carried out during the mid-stages of an on-going PhD research study. The idea of this paper is to present a four-step approach in the development of a conceptual framework for the control of Healthcare Associated Infections (HAI). Facilities Management - FM (i.e. availability of facilities, their utilisation and suitability) can greatly influence the healthcare setting as a whole, especially with regard to the development and transmission of HAI. However, a thorough review of literature suggests that, thus far, very little consideration has been given to FM services in the control of HAI. Resolving this requires a climate of awareness of the importance of FM services in the control of HAI. It demands an understanding of the relative importance of FM as a fundamental part of the control of HAI. Therefore, the conceptual framework developed for the control of HAI attempts to take an FM view. The conceptual framework aims to identify the key issues to be considered in the control of HAI in FM services. These key issues are mainly derived from the findings of a thorough review of literature and the informal interviews carried out as part of the research. Finally it is concluded that strategies adopted, involvement and integration of parties, performance management and knowledge management are all vital in the control of HAI in FM services.

Keywords: Conceptual framework, Facilities Management, Integration, Knowledge Management, Performance Management.

1. INTRODUCTION

The research study on which the paper is based focuses on Healthcare Associated Infection (HAI) in Facilities Management (FM) services (specifically on domestic services). HAI by definition means “infection which was neither present nor incubating at the time of admission but has developed during the course of a stay in hospital or other healthcare facility” (Scottish Executive Health Department, 2002). One of the main objectives of this research study was to develop a conceptual framework in order to explore the issues related to control of HAI in FM services. A thorough review of literature and informal interviews were therefore carried out during the first stages of the research study in order to achieve this. The idea of this paper is to explicate the process of development of the aforementioned conceptual framework in detail.

2. THE RESEARCH METHODS

As previously mentioned, a thorough review of literature and informal interviews were carried out to develop the conceptual framework. During the literature search, the topics examined were broadly categorised into three, i.e. literature on HAI, literature on FM and literature on HAI and FM, mainly to identify the following:
- literature search on HAI: what is HAI, its impact and severity, how can it be controlled, history of HAI, and areas associated with the control of HAI, etc.
- literature search on FM: what is FM in general and FM related to healthcare; its importance and the components of FM, etc.
- literature search on HAI and FM: association between HAI and FM, how can HAI be controlled through FM, what are the main components to be considered under FM in the control of HAI and what should be given due consideration in terms of components of FM in the control of HAI.

The dearth of literature written on FM relating to control of HAI was one of the difficulties faced by the researcher during the literature review. Hence, twenty-five (25) informal interviews were carried out, concurrently with the review of literature, to identify in detail the FM’s involvement in the control of HAI. Interviews were carried out with experts from the NHS (particularly in the NHS in Scotland) who are actively involved in the areas of control of HAI and FM. The variety of experts selected for this stage of the study ranged from healthcare managers, microbiologists, infection control nurses, facilities managers to construction professionals. These discussions offered useful insights in identifying the areas associated with the control of HAI and FM’s relation to HAI. The data gleaned from the interviews were tabulated according to professional categories mainly to exploit the following:
- the importance FM in the control of HAI
- areas of FM which are associated with the control of HAI
- challenges/ issues of control of HAI in FM services

3. DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK

The development of the conceptual framework involved four main steps (refer to figure 1).

All research needs an adequate conceptual framework (York University Research Partnership, 2000). A framework is defined (Miriam-Webster dictionary, 1994) as a ‘basic conceptual structure’ which would ordinarily contain two or more domains (groups) as well as one or more dimensions (sub-groups). According to Millennium Ecosystem Assessment (2003) a conceptual framework is designed to address a set of core questions developed
through an extensive literature search and/or through extensive interaction with users (i.e. users of the particular area concerned). As they further explain, a conceptual framework lists the issues to be addressed and illustrates their interrelationships. The conceptual framework developed in this study, therefore, assisted in identifying the issues to be considered in the area under investigation and was also used to generate research questions for the next stage of the study. In the conceptual framework developed, as figure 1 depicts, the first step defines the central focus of the framework. The second step continues to identify the key issues relating to the subject concerned. Step three then attempts to develop the main areas of the framework (for the purpose of this study, the main areas are identified as significant areas of the subject concerned). These main areas were devised using the key issues identified in the second step. Finally, the aim of step 4 is to develop the framework using the main areas and key issues identified. The following sub-sections discuss the aforementioned steps in-detail.

3.1 Step 1: central focus of the framework

There is a growing recognition that FM services have a dominant role in the control of HAI. However, a thorough review of literature suggests that, thus far, very little consideration has been given to FM services in the control of HAI. Resolving this requires a climate of awareness of the importance of FM services in the control of HAI; it demands an understanding of the relative importance of FM as a fundamental part of the control of HAI. Therefore, the conceptual framework developed for control of HAI attempted to take an FM view, i.e. the central focus of the conceptual framework is the control of HAI in FM services.

3.2 Step 2: identifying the key issues

This step is aimed at identifying the key issues to be considered under control of HAI in FM services. As aforementioned findings of the thorough review of literature revealed that FM is not yet fully exploited in the control of HAI. It is the case in clinical services. This was also asserted by many interviewees participated in the informal interviews.

The experts participated in the informal interviews presented different views on issues related to the control of HAI in FM services. The key issues derived from these findings are as follows. The discussions related to the issues are also substantiated with the findings of the review of literature:

- **Issue of roles and responsibilities of FM in the control of HAI:** Many books and reports on infection control have regarded HAI solely as a clinical issue (Bennet and Brachman, 1998). The Medical Research Council (1944) has considered the control of HAI as a nursing issue. Nevertheless, a recent publication entitled ‘Winning Ways’, a report of the Department of Health (DoH, 2003), has proposed seven action areas in the control of HAI and has averred that it should not be left to clinical staff alone. The ‘Winning Ways’ report, however, has not given particular emphasis to the area of FM. It appears from the discussions laid out in the said report that it has overlooked the remit of FM in the control of HAI. The organisational structure developed by the Comptroller and Auditor General (2000) specifically for control of HAI also appears not to have given any responsibilities to facilities managers. This was also evident from the informal interviews. As one of the facilities managers who participated in the informal interviews claimed, although many government documents have averred the significance of FM services in the control of HAI, it would seem that they have not accorded a prominent role to FM services in doing
so. As he further states, to tackle HAI, FM has to be given due priority. It has been put forward in a conference held in 2003 in NHS in Scotland that (the conference was organised by the Property and Environment Forum Executive, Scotland), controlling HAI is everybody’s business; meaning that the ‘process of the control of HAI is a collective effort’. ‘Everybody’ in this respect includes the government, policy makers, healthcare management, participants from both clinical and non-clinical staff services, and the general public. Therefore, if there is to be any major and positive impact on controlling the risks of HAI, there has to be a fundamental change in the thinking of management and staff. There has to be a climate of awareness of the importance of FM services in the control of HAI. Thus, improvements in the process of the control of HAI demand an understanding of the relative importance of FM as a fundamental aspect of the control of HAI. Furthermore, steps should be taken to define the roles and responsibilities of FM in the control of HAI.

- **Issue of involvement of infection control teams:** Various parties are involved in the process of control of HAI in FM services (both during design & construction stages and the building occupancy stage). These include facilities managers, healthcare managers, design & construction professionals, etc. These parties should ensure that patients, especially immunocompromised patients, are at no greater risk of infection within the hospital than outside. Therefore, Noskin and Peterson (2001) assert that infection control teams too play a major role in this process. In one of the Department of Health reports (2002) it was put forward that the NHS trusts have to fully involve infection control teams throughout the design process of a hospital and during FM operations. However, the National Audit Office (2004; as cited in Comptroller and Auditor General, 2004) reported that only half of infection control teams are usually consulted on the control of HAI issues in FM services. As the National Audit Office report recommended, the FM services should ensure that they comply with the newly published control of HAI standards by consulting infection control teams when purchasing equipment, planning, etc. The National Audit Office strengthened this recommendation to propose that NHS trusts should require consultation with infection control teams to be a mandatory step in contract tendering procedures for new build projects, and for cleaning, laundry and catering services. However, many infection control team members who participated in the informal interviews claimed that ‘they are often ignored or their advice is given lip service by facilities managers’. One of the infection control nurses stated that:

   “It is very frustrating when our advice is ignored or overridden”

Therefore, it is perceptible that the importance of infection control team’s involvement in FM services in hospitals (both during design and construction stages and the building occupancy stage) remains unclear. As Bartley (2000) informs us, guidelines are needed to highlight that FM services require consultation from infection control teams. As he also states, early involvement of infection control teams in FM services helps to ascertain the risks for susceptible patients and disruption of essential patient services.

- **Issue of integration among the parties involved:** Integration for the purpose of this research study implies that ‘the parties involved in the control of HAI communicate and coordinate their work together to deliver safe patient care’. Findings of the thorough review of literature suggest that the infection control teams and other medical team representatives must be allowed to routinely address the issues associated with the control of HAI in FM operations (Bartley and Bjerke, 2001). Barkley and Bjerke further assert that collaborative team skills and appropriate communication techniques are integral throughout FM operations. However, it was identified from the informal interviews that
there is lack of communication and coordination among the parties involved in the control of HAI in FM services.

- **Lack of knowledge in the control of HAI:** The lack of knowledge in the control of HAI was another issue uncovered during the informal interviews and review of literature. The Canada Communicable Disease Report (1998) highlights that: “although FM services are considered to be important in the control of HAI, studies have repeatedly shown poor compliance with control of HAI protocols by FM personnel”. As the report further claims, the failure to comply is a complex problem that includes an element of lack of knowledge about the importance of control of HAI. Designers, construction professionals and facilities managers often lack knowledge in the control of HAI and lack awareness of the severity of HAI. This can increase the chances of avoiding their adherence to control of HAI standards during design and construction of hospitals and during FM operations. In contrast, infection control teams lack knowledge on FM aspects (design and construction, cleaning, catering, etc.). With this, managers and staff tend to be, or often become, pigeon-holed within their own specialities, and only when necessary are they backed up by ad-hoc teamwork (Horton and Parker, 2002). Newton (2003) avers that the sharing of knowledge is definitely advantageous in such types of situations. As he recommends, having representatives from all the teams involved is certainly beneficial to assist each other in their particular areas of expertise.

- **Training and education:** Wolfe (2003) states that it is essential for the non-clinical staff (i.e. construction and FM staff, in this study point of view) to understand the issues associated with the control of HAI during construction of a hospital and during FM operations (e.g. how to construct a negative pressure enclosure, how to implement work practices that reduce or eliminate the transmission of infections). However, from the discussions with the experts (during the informal interviews) it was apparent that many construction and FM staff have limited up-to-date training and background knowledge in the principles of control of HAI, including the proper use of personal protective equipment. As most of the infection control nurses revealed, in the NHS, there is a severe shortage of formal training and education programmes associated with the control of HAI.

- **Issues related to policies, guidelines and standards:** It was also apparent from the interviews that there is a lack of mandatory and evidence-based policies, guidelines and standards (identified as guidance documents for the purpose of this study) in NHS for the control of HAI in terms of healthcare facilities. That is not to say that there are no guidance documents to draw from. The NHS has provided some guidance on appropriate healthcare facilities management to ensure effective control of HAI; for example, ‘infection control in the built environment – Health Building Note 30’ (NHS Estates, 2001). However, as one of the infection control nurses who participated in the interviews highlighted, such documents only contain general guidelines and standards. What is needed, as she perceives, is far more comprehensive documents on healthcare facilities management, particularly with respect to the type of healthcare facilities, e.g. operation theatres, emergency departments, wards, etc.

- **Lack of performance management in the control of HAI:** Bartley (2000) has recommended the need for ‘performance management’ to assess the level of adoption of control of HAI standards in FM services. In his recommendations, he suggests defining outcome measures (e.g. surgical site infection rates) and/or process measures (e.g. measuring compliance), for measuring and managing performance. From the discussions with the experts it was revealed that performance measurement and management are less
developed areas in the control of HAI in FM services. For example, hitherto, there are no performance measures in-place to ensure that the control of HAI standards are adequately met during FM operations.

3.3 Step 3: devising the main areas of the framework

As Berwick (as cited in Woods et al, 2001) asserts, great health professionals do not make great healthcare. Great health professionals interacting well with all of the other elements of the healthcare system make great healthcare. Therefore, the Department of Human Services (1998) states that, the control of HAI requires the commitment of adequate resources and clear lines of communication between the major players. As mentioned in the previous section, the NHS organisation structures specifically designed for the control of HAI (by the Comptroller and Auditor General, 2000 and Scottish Centre for Infection and Environmental Health, 2002a and 2002b) have not considered FM as a major player in the process of control of HAI. Neither have they given any clear lines of responsibilities for FM personnel nor clear lines of communications for FM services to interact with the major players in the control of HAI (e.g. infection control teams). This has created a perception that HAI is predominantly a clinical issue, and has resulted in the lack of ‘integration’ between clinical and FM services staff.

From the discussions laid out in the previous section, it was also identified that there are key shortfalls in areas such as guidance documents with regard to the control of HAI in FM services and the involvement of infection control teams. It was also apparent that there are issues related to the lack of knowledge in the control of HAI. This is partly due to lack of training and education programmes associated with the control of HAI.

Considering such issues, a few of the key documents have offered recommendations for successful control of HAI. The dearth of literature on control of HAI in FM services (especially journal papers and books) was one of the challenges of this study. Therefore, the key documents considered for the development of the conceptual framework are mostly reports published by healthcare organisations/ healthcare related organisations (UK and worldwide). The said documents are identified as ‘key’ considering three main factors, i.e. the title, the author (i.e. organisation) and year of publication:

- Relevance of the title (title): the documents chosen are specifically related to the control of HAI in FM services. Most of the documents, inter alia, discuss about the problems/ issues related to HAI. The documents have provided key recommendations to improve control of HAI in FM services.
- Prominence of the organisation (author): the author should be/ should be related to a leading healthcare organisation, e.g. World Health Organisation (WHO). This is to ensure reliability of the information gleaned.
- Currency of publication (year of publication): the conceptual framework for this study was developed in mid 2004. Therefore the documents used for devising the main areas to be considered for the conceptual framework were chosen considering the date of publication as well. The date of publication of most of the key documents is between 2000 and 2004.

Taking all the recommendations of the aforementioned key reports and the key issues described in step 2 in the previous section into consideration, the significant areas to be considered in the process of successful control of HAI in FM services can be encapsulated as depicted in table 1. The information given in table 1 reveals that, at present, the strategies adopted in the control of HAI in FM services, involvement and integration of different parties involved in the control of HAI in FM services, performance management and knowledge management stand as significant areas in the control of HAI in FM services.
Strategy herein implies a ‘framework within which to plan/ work in order to achieve the goals of an organisation’. According to the NHS Estates (2003), for an FM service to be effective, formulating a ‘strategy’ is an essential criterion in order to address key issues in the particular FM service. As they further explain the development and review of policies, guidelines, standards and specifications, defining accountabilities, roles and responsibilities are all essential in formulating a strategy.

The lack of involvement and integration among the parties involved are also major issues in the control of HAI in FM services. According to the report published by the HAI Task Force Secretariat – Scotland (2005), clear mechanisms should be established in NHS boards for the infection control teams to coordinate and communicate with the clinical and non-clinical (FM) services in all prevention and control of HAI programmes. As the report suggests this is a critical success factor in achieving stated goals in infection control and prevention.

Table 1: Significant areas to be considered in the process of successful control of HAI in FM services

<table>
<thead>
<tr>
<th>KEY ISSUES</th>
<th>KEY RECOMMENDATIONS</th>
<th>SIGNIFICANT AREAS</th>
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<tbody>
<tr>
<td>• Issues related to roles and responsibilities</td>
<td>• Define accountability</td>
<td>Strategies</td>
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<tr>
<td>• Issues related to guidance documents (policies, guidelines and standards)</td>
<td>• Define roles and responsibilities</td>
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<tr>
<td>• Issues related to priority given to FM in the control of HAI</td>
<td>• Develop and review control of HAI policies, guidelines and standards</td>
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<tr>
<td>• Lack of resources (availability of staff, cost implications)</td>
<td>• Ensure compliance with policies and guidelines</td>
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<tr>
<td>• Lack of involvement of infection control teams</td>
<td>• Develop and review service specifications</td>
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<tr>
<td>• Lack of integration among the parties involved in the control of HAI</td>
<td>• Ensure FM is stressed as a vitally important part of the control of HAI</td>
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<tr>
<td>• Lack of performance management</td>
<td>• Give infection control the importance and priority it deserves</td>
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<tr>
<td>• Lack of training and education</td>
<td>• Identify resource deployment</td>
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<tr>
<td>• Lack of knowledge in the control of HAI</td>
<td></td>
<td>Involvement and integration of different parties</td>
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<tr>
<td>• Develop key performance indicators/measures</td>
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<tr>
<td>• Identify performance requirements</td>
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<td>Performance Management (PM)</td>
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<td>• Develop monitoring and supervision arrangements</td>
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<tr>
<td>• Measuring performance</td>
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<td>• Audit and feedback to staff</td>
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<tr>
<td>• Set up training and education programmes</td>
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<td>Knowledge Management (KM)</td>
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<tr>
<td>• Review training and education programmes</td>
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<tr>
<td>• Develop knowledge and skills appropriate to control of HAI in FM services</td>
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<td>• Apply knowledge and skills appropriately in the control of HAI in FM services</td>
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<td>• Knowledge dissemination</td>
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As Sumlin (1997) noted, successful organisations are already discovering Performance Management (PM) as a critical business tool, one that plays an important role in translating business strategy into results. Performance Management (PM) can be seen as a significant area in the control of HAI in FM services since it can be used to improve and develop the performance of the said field (control of HAI). However, it has seldom been recognised as a main component in the control of HAI. PM can be used as an effective tool to detect pros and cons of the control of HAI system in-use and can then support strategic decision making. It can be used as a point of reference to compare the past performance levels with the present. It can also be utilised to identify mistakes and to assist in deciding remedies to be taken. Alternatively, it can enable an organisation to manage performance by measuring performance.

The report ‘NHS Performance Indicators: A Consultation (2001)’ asserts that around 15% of HAI could be avoided through strengthened arrangements for prevention and control, and better application of existing knowledge and good practice. As a knowledge intensive sector healthcare needs to adopt the latest medical and relevant support service practices. It also has to rely on the skills and expertise (knowledge) of the staff to provide a quality service (Knowledge Management Strategic Advisory Committee, 2002). KM is specifically vital in achieving this due to the fact that it requires prompt attention or quick response on customer needs, i.e. patient care, with the aid of prompt and appropriate knowledge, skills and expertise of staff for excellent delivery of services. It needs the employment of the right sets of knowledge at the right time.

### 3.4 Step 4: development of the framework

Even though FM is a support service, its integration with core services (i.e. clinical care), as a whole, can enhance the overall healthcare experience of patients. As the Health Facilities Notes 17 (NHS Estates, 1998) states, patient’s perception of quality is based not only on clinical treatments but also on a range of other factors relating to the overall healthcare experience. Support functions, such as catering, cleaning, administration and reception services, can create first and lasting impressions – good and bad. Hence there is a need to consider support services as an integral part of healthcare services (NHS Estates, 1998). According to Kincaid (1994) integration of FM as an effective function for an organisation is a must and can be achieved through:

- FM must link strategically, tactically and operationally to other support activities and primary activities to create value; and
- Within FM, managers must be equipped with knowledge of facilities and management to carry out their integrated support role.

FM can be made integral to the healthcare services when there is improved co-ordination and communication among the clinical and FM services staff. Also the involvement of all the relevant parties in the concerned processes (e.g. involving both infection control teams, nurses and FM teams in the control of HAI in FM services) allows key functions to be performed as and when required. Nevertheless, this has to be done in such a way that there is less confusion among the parties involved regarding their roles and responsibilities. It is the remit of healthcare management to adopt appropriate strategies to properly define roles and responsibilities of all staff.

Knowledge Management (KM) is also vital in the process of improving the involvement and integration of parties in the control of HAI in FM services. The involvement and integration of relevant parties require an open culture where FM and clinical staff can blend
with one another without any barriers. KM can be used to create this through encouraging employees to share their knowledge, which will provide an opportunity to achieve:

- mutual recognition and information exchange regarding objectives and planned outcomes
- improvement of skills and competences which could ultimately lead to effectiveness and efficiency of practices of employees of the organisation
- avoiding duplication of mistakes through sharing of experiences
- avoiding gaps or repetition of work through effective communication

The strategies adopted by healthcare management/ facilities management also become vital in the aforementioned process. Taking appropriate steps to boost the profile of FM in the control of HAI and also to increase the awareness of FM staff in the control of HAI is vital in avoiding ‘superiority/ inferiority’ attitudes of the staff. This could create a culture where FM and clinical staff can blend with one another without any barriers. Developing appropriate policies, guidelines and standards in order to encourage staff to develop, improve and share knowledge and skills is significant for effective KM and better integration.

As repeatedly discussed in the previous sections, PM is also important in the control of HAI in FM services. PM is mainly about assessing the achievement of planned targets. In doing so, the selection of suitable performance measures is significant to reflect the actual levels of performance of FM services. However, this is always challenging due to the difficulty in choosing what is to be measured appropriately, rather than picking what is easy to measure. An appropriate benchmarking system is also a prerequisite of a proper PM approach. Benchmarking is a structured and focused approach which can be used to compare current performance with past performance levels or to compare performance with other services/hospitals. The purpose of the comparisons is to enable the facilities managers to identify where and how they can do better. Most importantly, PM can also assist in developing and/or reviewing strategies adopted in FM services. It can also provide the opportunity to assess/ evaluate the degree of application of KM in FM services. Besides, it can also be used to evaluate the extent of involvement and integration of different parties in particular processes. All of the above can subsequently result in improving the processes of control of HAI in FM services. The inclusion of PM into the conceptual framework, therefore, provides an opportunity to achieve the following in the control of HAI in FM services:

- measure progress towards achieving objectives
- promote benchmarking practices in order to compare performance with past levels of performance and among other hospitals
- promote service improvement through corrective actions

Overall, as previously mentioned, KM is significant in the process of involvement and integration of different parties in the control of HAI in FM services. Involvement and integration requires an open culture and KM can be used to create this open culture through encouraging staff to share their knowledge. KM enhances knowledge sharing which can eventually result in integration. On the other hand, PM can be used to assess the performance of control of HAI in FM services. PM is also essential for KM. Knowing what you have done and what has gone wrong can assist in avoiding repetition of the same mistake. Also knowing where you are, what you are doing, and what to do will help to generate knowledge at the right time. This is particularly important to share information or knowledge at the right time to the right person. Adopting appropriate strategies in the process of successful control of HAI in FM services is also essential, inter alia, in setting up and reviewing requirements in terms of KM, PM and issues to do with the involvement and integration.

Taking all the above into consideration a conceptual framework was developed and is depicted in figure 2. The significant areas, i.e. strategies, involvement and integration of
parties, PM and KM, are highlighted in the conceptual framework. The aforementioned discussions revealed that these are not stand-alone areas, thus, the areas are linked to show their interrelationships. The recommendations highlighted in table 1 are also noted in the conceptual framework to further elaborate the significant areas. The framework was developed for the purpose of the next stages of the study. Therefore, the research questions to be explored in the next stages of the study are also depicted in the conceptual framework.

Figure 2: The conceptual framework for the control of HAI in FM services

4. SUMMARY AND CONCLUSIONS

A thorough review of literature and informal interviews suggest that appropriate strategies, involvement and integration of parties, performance management and knowledge management are significant in the control of HAI in FM services. Herein, a ‘strategy’ implies a ‘framework within which to plan/ work in order to achieve the goals of an organisation’. The development and review of policies, guidelines, standards and specifications, defining accountabilities, roles and responsibilities are all essential in the process of strategy
formulation. It was perceived that there should be a greater level of involvement and integration of relevant parties in the control of HAI in FM services. This is to eliminate discrepancies of work practices in terms of the control of HAI. Performance Management (PM) is essential to assess whether staff have successfully achieved the stated targets in the control of HAI. Since Performance Management (PM) is mostly about assessment and management of the achievement of planned targets, it could enable the facilities managers to identify where and how they can do better in terms of control of HAI. Knowledge Management is vital in the control of HAI to develop, share, apply and improve knowledge and skills of FM staff who are unaware of the issues associated with the control of HAI. Some can misinterpret KM as an approach which has a high association with information technology (IT). However, if studied carefully, KM is not all about technology; it is about identifying and linking groups and individuals around knowledge. In terms of HAI, it would appear that there is a necessity for all teams and individuals of clinical and non-clinical (FM) teams to work together to achieve the targets associated with successful practices of the control of HAI. Therefore, KM can encourage learning through mistakes and thus can increase efficiency in practices associated with the control of HAI. Overall, it can be concluded that the review of literature and the informal interviews carried out as part of this research study highlighted four themes in the control of HAI in FM services, which point to the need for further investigation:

- the strategies adopted
- the need for involvement and integration of different parties
- the need for managing performance
- the need for managing knowledge

5. REFERENCES


HAI Task Force Secretariat, 2005, Infection control: organisational issues. Scottish Executive Health Department, Edinburgh


Medical Research Council, 1944, The control of cross infection in hospitals, War Memorandum No. 11 - Memorandum prepared for the Committee on preventive medicine of the medical research council by the sub-committee on Cross infection in Hospital Wards, His Majesty's stationary office – London.


Scottish Centre for Infection and Environmental Health, 2002a, Model of infection and communicable disease control in Scotland (Kennedy Report), Kennedy Business Development, Northamptonshire.


