Investigation into Space Standards' Application in Publicly Funded Hospital Projects in the UK

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DECLARATION OF ORGINALITY AND APPROVAL OF RESEACH ETHICS

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ABSTRACT

Healthcare infrastructure in the UK could not cater the demand and embrace the advanced technology until two decades ago. This was mainly attributed to the incompetence of the existing assets. In response to that, governmental bodies have introduced changes to policies, regulations and organizational structures. These subjected changes along with increasing demand had a profound effect on the design of healthcare assets. Therefore, standards' application has changed as well.

The purpose of this research was to ascertain the differentiating practices of space standards from literature and detect similar implementations by looking into the design briefs of publicly funded hospital projects. Literature explored the areas of frequently applied space elements and standards implementation along with their ties with health.

The move towards patient centeredness and patient privacy, which are the recent policy objectives, initiated changes to space design implementations and the interpretation of standards.

Case study approach was undertaken to scrutinize publicly funded hospitals in which recent space standards were used in the design process. Findings from both case studies and literature were compared and contrasted through pattern matching. As the result of that, different and similar patterns led to the conclusions.

While results were not pointing out the substantial divergence between each other and standards, further consolidation of standards could be a solution for preventing such various implementations. Findings indicated that patient-centeredness were not wholly embraced due to the outstanding applications pertaining to the provision of similar to home, pleasant and therapeutic environments. Furthermore, in the light of patterns, it is found that patient privacy could be improved and necessary measures for fulfilling such aim were viable in the design context for publicly funded hospitals in the UK.

Keywords: Space standards, design, hospital, UK

TABLE OF CONTENTS

LIST OF APPENDICES, TABLES AND ILLUSTRATIVE MATERIALS

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1. INTRODUCTION

This chapter sets out the background of the research topic and comprises five sections, focusing on the background, problem statement and purpose of the research. At the outset, background section explains the concept of space standards and how it influences the factors in hospital projects. Secondly, the research problem of this study is described. Following that, the aims and research questions are defined and research methods to be applied for this study is explained. Finally, the chapters of this dissertation are summarized.

1.1. BACKGROUND

The UK healthcare sector has undergone major changes over the last two decades. The changes were needed in many aspects because most of the healthcare estates are found to be inadequate and obsolete to enable the provision of the modern health services (Edwards, 2013). The UK Government has detected these issues and taken action for their redevelopment. As a result of that, many policies have been published and regulations put in place.

The changing political environment has influenced the way healthcare sector works. These rapid changes along with the advancement in technology have affected almost every aspect of the healthcare sector.

Nowadays, the UK government became face to face with an industry which is resource demanding more than ever. Moreover, there is an increasing demand for a healthier lifestyle, incorporation of innovation into the core principles of healthcare design and focusing more on patient health and safety during design (Kagioglou and Tzortzopolous, 2010). Historically, facilities were designed mostly with an emphasis on the functionality and efficiency of the premises, and architectural thinking was the dominant factor (Gesler et al., 2004). Now, the published policies are promoting protocol-based and evidence-based systems, which are deemed to prioritize patient's experience and productivity of the workforce, namely service delivery instead of cost efficiency (Glanville, 2006). In this context, the effects of physical environment and spatial arrangements are major to provide the subjected modernized service delivery (Berry and Parish, 2008). Such configurations are usually determined early in the project where current prescriptive standard and guidance such as Health Building Notes (referred from now on as HBNs) and Activity Database (referred from now on as ADB) step in as a guide for the design brief (Wanigarathna et al., 2016). Consequently, how the changes in policy and regulation landscape affects the usage of space standards in design brief, is considered worthwhile to research.

Healthcare projects are very complex, and its design challenges multiplied by the functional requirements of this facility. Especially, spatial configurations of the healthcare structure such as layout, form, fenestration and room adjacencies are among the most important activities early in the design stage. In the event of poor decision making during that process, the resultant cost effect in the later stages may be huge (Zhao et al., 2009). On the other hand, healing and well-being can be enhanced through creating better physical environments (Devlin and Arneil, 2003). Also, workforce's efficiency is a matter of concern which can be improved by the help of design (Ulrich, 2006).

In the process of decision making, during the early design stages, standards and guidance have a profound effect. Their purpose is to give baseline standard and benchmark to the designers. Even though it is thought to be out of date, incomplete and not corresponding to the needs of currently expected healthcare environment (Moss et al., 2001), their use in projects either as a reference or exactly the same is common (Hignett and Lu, 2009). Mostly, used standards and guidance for the spatial configurations fall under HBNs and ADB.

This study focuses on the extent of space standards' incorporation into the design brief. Since the publication of standards are pushed by the policies and regulations, these interactive factors may have an impact on its compliance in practice. Therefore, policy and regulation aspects are scrutinized through the literature review.

Policies applications are pointing the way to how the healthcare planning is formed. It is therefore vital to review and follow up their developments. For instance, as a result of 'The Essence of Care' policy (DoH, 2001), the requirement is to design at least half of the total rooms in a hospital as single rooms. In the context of this policy, architects aim to apply architectural privacy, namely visual and acoustic isolation, as a part of the space design process with the aid of space standards (Archea, 1977). However, standards are not satisfying practitioners' needs because information has not been layered and is hard to access in some cases (Alalouch et al.,2016). Similar resource demanding requirements put in place in the last two decades, however, in practice, its compliance is a question mark for public projects. Although policies are promoting modern, enhanced, high tech hospitals, governments are facing issues with funding causing them to shift to different sources of finance. Hence, it is not unexpected that public projects would not be meeting such requirements.

Another important impact was the political changes in the UK government in 2010. Centralized UK healthcare system gave its place to local authorities (Smith, 2008). The introduction of new regulations has liberated the management of NHS operations and promised efficiency by weakening the bureaucratic links with the government and moving the Department of Health away in the organization structure. These reorganizations have resulted in a gap between healthcare trusts and government (Klein, 2006). As its natural consequence, healthcare building quality assessment and the creation of new standards may well be hampered. Thus, challenges in the design process multiplied with unconsolidated policies and regulations.

1.2. RESEARCH PROBLEM

Many research can be found regarding the impact of healthcare environment design on the patient's health outcomes. It is also known that patient centered approach and evidence based design are encouraged to tackle the productivity and design quality issues. In light of the above-mentioned literature, there is a need for knowledge on how these approaches can be implemented in practice.

Although previous studies have discussed the patient experience in single room accommodation (Maben et al., 2016), the use of HBNs by the designers (Hignett and Lu, 2009), factors influencing the space planning (Zhao et al., 2009), organisation structure's effect on healthcare design standards and tools (Lindahl et al.,2010), space standardization's effects on patient health and care (Price and Lu, 2013), there is a lack of investigation that focuses explicitly on the comparison of research evidence and practice pertaining to space standards in real-world healthcare projects. What is not yet clear is whether HBNs are being complied with or not in practice.

There are many normative advice, guidance, policies, and regulations with regards to the space standards. However, there is relatively less evidence on how the actual implementation of these standards is. There is an abundance of literature regarding the actual empirical evidence of the applications of space standards.

1.3. AIM AND RESEARCH QUESTIONS

The aim of this study, therefore, is to investigate similarities and differences of space design practices, adapted in publicly funded hospital projects and incorporated into the design briefs, with reference to the stipulated standards and guidance in the UK.

To reach the aim, this study was conducted by looking at single inpatient wards especially. Since inpatient rooms are covering most of the area when compared to other functional units (Cox and Groves, 1990) and they are attracting public's attention as well (Alalouch, 2009), it is relatively more reasonable to deal with the subjected area.

In order to achieve the aim mentioned above, following research questions were examined through literature review and case studies:

1) What are the standards that have been used?

2) What are the schedules of accommodation, room shape, bed room size and configuration, floor areas and bathroom pertaining to the single inpatient room?

3) What is the proportion of designated single room area when compared to all rooms in the hospital facility?

4) Which of the key space elements (workstation, family support zone, clinical support zone, bed space, en-suite bathroom) are included in inpatient rooms? How are they formed in inpatient rooms?

5) How the therapeutic landscape is constructed in the subjected rooms?

1.4. SUMMARY OF THE RESEARCH METHOD

This section defines how to reach the aim of the dissertation and how to get answers to the research questions. Following the review of the literature, namely determination of the patterns in the literature, supporting framework was realized to discuss the answers to research questions. This research conducted case study approach by collecting and analysing qualitative and quantitative information from three hospital projects where the public fund used for financing. Selection of case studies was made rigorously by adapting purposeful sampling strategy and choosing representative cases. Data collected by getting background information and by reviewing space standards' implementation. Since the aim was to find similarities and differences in practice and between practice and literature, pattern matching along with cross case approach was used to get some evidence related to the applications of space design. As an inherent property of such method, comparisons of implementations made as well. Finally, compared implementations were used to discuss the framework constituted from literature.

1.5. SYNOPSIS OF DISSERTATION

The dissertation was divided into the below mentioned five in order to meet the research aim referred to in section 1.3.

Chapter one is an introduction where the background of the subject discussed along with research questions and aim. This chapter led the way, which was pursued in the following chapters, of writing the dissertation.

In Chapter two Literature Review, at the outset, changes encountered in every platform of healthcare environment were presented. Changing roles with reference to their impacts on standards' application has been analysed, and policy and regulatory pressures were viewed. Policy driver in healthcare, namely patient-centred approach, was investigated in the context of applications made in publicly funded hospital's single room. Findings from literature review generated patterns applied in single room design of hospital in the light of recent changes in policy, regulation, and standards, which can then provide sources to revive the discussion in chapter five.

In chapter three, research strategy, based on case study research, was structured by choosing the most rational techniques and tools including, but not limited to source selection, data collection, and analysis needed for answering the research questions. Furthermore, justifications were presented to explain the choice of secondary data and the criteria for case study selection.

Chapter four discussed findings with the guidance of research questions by dwelling on project information and implemented space standards. Then, case studies were reviewed and analysed by comparing the space standard applications made in each study.

In chapter five, similarities and differences in the implementation of space standards were linked to the relevant literature. The root cause of such changes in applications was analysed by referring to the information obtained from the literature review. The conclusion of the research was drawn by indicating the relationship between the main findings and research objectives and/or aim. Following that, implications corresponding to both theory and practice were discussed. It also drew its limits by pointing out the unexplained aspects of this subject. After presenting the result findings, recommendations were given for further research areas.

2. LITERATURE REVIEW

2.1. INTRODUCTION

In this chapter, the literature review is initiated with the introduction of the changing nature of UK healthcare environment. The discussion around changes accumulated in various subjects such as organization structure, regulation, policies, demand and supply. Following that, resultant effects of policy pressures, which are patient-centered approach and patient privacy, are analysed to understand their impacts on space design. In the last section, current standards and regulations pertaining to the inpatient rooms are scrutinized. An overview of the effects of such standards to the design application is made.

2.2. CHANGES IN HEALTHCARE SECTOR

Healthcare facilities of NHS have been judged by its underutilized, outmoded and not fit for its purpose assets (Mills et al., 2015b). Obsolescence of healthcare facilities from flexibility aspect has been emphasized by Ahmad et al. (2011) and lack of flexibility can be one of the most important reason for that when the long-life span of the healthcare buildings was considered (Ahmad et al., 2011). In addition to the existing infrastructure challenges, healthcare facilities were face to face with the challenges stemming from technology, society, and economy. Hosking and Jarvis (2003) understood the need for more healthcare facilities in order to tackle the challenges arising from increased elder population, demand for health supportive environments and recessions in economic growth.

Many governments have recognized the need for addressing these challenges over the past twenty-five years. In this period, initiatives have been taken and changes have been made in the subjects of funding, regulation, policy landscape, organization structure and service provisions (Kagioglu and Tzortzopolous, 2010).

With the gradually reduced control of government over the healthcare management, governance has been shifted from central to the local authorities. Walsche (2002) approached the decentralization with caution by highlighting two remote poles which were regulation and accountability. Underlying reasons for that shift emphasized by Bevan and Hood (2006) was the difficulties in quality control and inspections in the centralized governance approach. Resource allocation to the healthcare sector was descending, and lack of monitoring and inspections were reducing the accountability to the public (Bevan and Hood, 2006). Lack of agencies and third-party institutions for the proper oversight of the services, the conveying of information, the policy uptake and the interpretation of public needs may give rise to the confusion in the application (Walsche, 2002). On the other hand, Baldwin et al. (2012) have mentioned about the shift to risk based approaches and interactive behaviours between institutions, which were seen as a central pillar to address some of the market failures. Concentrating more on the activities, which are carrying the highest risk, uptake of policies and continuous learning were among the solutions proposed by Baldwin et al. (2012). This shift was regarded as the changes to more liberated and self-managing service providers fundamentally (Gunningham, 2009). However, the involvement of independent experts, institutions and local authorities with the participation of public and stakeholders has reinforced, rather than abandon, the quality control (Gunningham, 2009).

Political changes and the decision of spreading the governmental control to local authorities in healthcare governance have affected healthcare environment and services. With this change, trust building and accountability were aimed to be constructed by putting the public in the center of the control mechanism (Church et al., 2002). Public involvement in the decision making was seen as a solution to address the users' needs and improve the quality of healthcare environment and eventually the accountability (Simces, 2003). Another advantage of the decentralization, argued by Saltman and Figueras (1997), was getting rid of the increasing cost stemming from direct regulation.

Moving to decentralization were found to have benefits in many aspects compared to the centralized approach when the performance of healthcare infrastructures is concerned (Sinclair, 1998; Klein, 2007). Creation of secondary control mechanisms for the instructions received from centralized units, understanding the organizational challenges in response to the policy pressures, improvements in monitoring and accountability were among the findings (Vrangbaek, 2007). Furthermore, Vrangbaek (2007) emphasized that decentralization improves the input-related, process related and as their result outcome-related performance, which were categorized according to Donabedian's quality framework (Donabedian, 1985). This framework would provide a better understanding of the potential users' requests by highlighting the logic behind. For instance, if their expected outcome is privacy, their request for single rooms or social environment can be made sense of accordingly. Meeting the output oriented objectives is considered to be easier when compared to the prescriptive requirements which are acknowledged to be restricting alternative solutions (Heavisides and Price, 2001). Lindahl et al (2010), after having reviewed both centralization and decentralization approaches, have concluded that there is no empirical evidence to promote any of these approaches as the best practice. Also, the introduction of market aspects, conversion to "quasi-market" mechanism, accompanied by the devolution to local authorities have changed the role of public participation (Rowe and Shepherd, 2002). Active public engagement to the design process has been promoted through policies (Wait and Nolte, 2006). As the result of decentralization and public empowerment, possible conflicts may arise while addressing public requests and meeting policies objectives at the same time (Bishop, 2014). Wait and Nolte (2006) emphasized the need for holistic approach thinking pertaining to the policy aspect and the public involvement. Mills et al. (2015a) drew attention to the control role changes from Department of Health to the local authorities and independent arm's length bodies and further laid emphasis on the need for change in approaching the quality control.

On the demand side, by the issuance of NHS Plan in 2000, facilities were required to be designed by focusing on the patients' perspectives (Douglas and Douglas, 2005). Creation of safe, efficient and patient-centered environments became providers' focus (Bishop, 2014). In order to take patient centric approaches, realize the patients' views and meet the local areas' needs, the public and stakeholder involvement seems to be essential.

After the publication of first standards in the UK, modern healthcare ward design evolution abolishing the historic Nightingale ward layout has taken shapes with three different methods; Best Buy, Harness, Nucleus (Francis et al., 1999). While the efficiency of staff and ventilation was very well considered in the Nightingale ward type, privacy was compromised (Cox and Groves, 1990). The purpose of the emergence of various modern ward types in that time was to standardize the ward designs (Francis et al., 1999). However, the developments were towards more privacy and designing single rooms where many operations could be taken place in one single location and movements between hospital function rooms could be reduced (Woogara, 2004). While the discussion around the multi or single bed were being made (Chaudhury et al., 2005), standardization studies have been taken place to reduce errors made by staff, to meet the patient's needs in the areas of privacy and dignity and to increase efficiency (Reiling et al., 2004). Things to be considered in a single room such as patient's family support zone, treatment technologies, and caregiver area have enlarged the single room area substantially (Knowles, 1997). Thus, floor area had to increase to deploy the new demands and technological developments. In practice, this change means the transfer of the components and/or equipment to the rooms. Zborowsky et al. (2010) have indicated the tendency to design the workstation closer to the patient by highlighting the impact on patient-centeredness. The gap-filling study made by Berry et al. (2004) constituted an example for standardization of intensive care units by considering the future proofing and latest technology at that time. Even though there have been many developments regarding space, design and ergonomic drawings, most of the application has been subjected to the criticism due to the lack of understanding of in-use requirements (Vos et al., 2007). Thus, the need for the organization of the stakeholder and public engagement, prioritization of their requests and hindrances in front of the continuous and active involvement was proposed as areas for improvement to exploit the benefits of stakeholder and public participation in decision making (Mahadkar et al., 2010). Overall, with the movement towards more sophisticated approaches, healthcare design has witnessed to some changes as well (Mahadkar et al., 2010). As a result, the patient centered approach has entailed the emergence of development in a therapeutic environment, stakeholder and public engagement, patient privacy, and safety.

2.3. PATIENT CENTRED APPROACH

Modernization approach, promoted with the NHS Plan 2000 and DH's New NHS – Modern, Dependable, and later on reinforced with NHS Improvement Plan 2004, was referring improvements in patient's experience. Privacy and dignity became required schemes after the policy pressures (Kagioglu and Tzortzopolous, 2010). Furthermore, single room assets within new hospital facilities are not to be under the ratio of 50% as per the guidance issued in 2001 (Phiri, 2004). New single room perspective and pressures for increasing the proportion of single rooms were advocating the integration and incorporation of some other units, which are used for operations and specialized functions, to its structure (Dowdeswell et al., 2004). Thus, patient centered approach and privacy came into existence in the form of requirements for single rooms in hospitals.

With this perspective change, as Miller and Swensson (1995) indicated, anything that is used or needed in the operation stage would be coming closer to the patients in a way that patients prefer. This is deemed to be affecting the form and space layout of the rooms.

Patient centered care has been adapted to the steps of Maslow's hierarchy of needs (Liberakis, 1971 as cited in Devlin and Arneill, 2003). According to the categorisation of Beatrice et al. (1998), patient's needs and choices were seen as the first step to be achieved. Following that, patient-led care, education, comfort in the physical environment, psychological support, social environment forming and transition and care continuity have taken their place in the subjected hierarchy (Beatrice et al. 1998). As part of Devlin and Arneil's (2003) research, after realising the fact that standardisation in hospitals is unable to address the patients' varying needs, to overcome the challenges stemming from new healthcare trends and to create a healing environment, patient centred care, ambient and special populations of three clusters have been emerged. Codinhoto et al. (2008)'s findings have supported the statement referring to the physical environment's effect on patients' health. However, when the current assets were investigated, Lawson and Phiri (2003) pointed out the shortcomings in healthcare environment which were found to be not healing and deemed to be therapeutically inappropriate.

In patient centred care, from design of patient rooms to workflows and processes, most of the decisions are reflected from the patients' perspective and major focus is to uptake the control of environment and share the risks of decision making by embedding learning in the patient centred care process (Francis et al., 1999). The importance of patients' control for the healthcare environment has been recognized in the research of Douglas and Douglas (2004). In an earlier study of Murphy (2000), control was mentioned as to pertain to the sound, light, heat, and choice of privacy. The outcomes of the intangible benefits are not objective. This approach's tangible reflections are mostly observed in the spatial design, especially in the room size, arrangement of room and nursing station (Sherer, 1993).

Zhao et al. (2009) approached the space design from different aspects, including but not limited to the issues that impact on the patient satisfaction, falls, privacy, security, safety, organizational elements, energy consumption and spatial relationships between the units within the hospital. In terms of safety, measures are taken to reduce the patient falls, by deploying staff as per the required levels of supervision and the arrangement of staff workstations to prevent medical errors (Zhao et al., 2009). Even though the study of

Pullen et al. (1999) surprisingly provided substantial amounts of evidence for patient fall take place in single rooms, many other types of research provided useful design solutions to tackle this problem. Ulrich et al. (2008) suggested allocation of space for families to avert patient falls. Dalke et al. (2006) mentioned the benefits of using low-level lighting or distributed light as ways to increase visibility and patient satisfaction. Willmott (1986) promoted carpet floors for ease of walking. User satisfaction is sustained with the provision of good therapeutic environments, family support units and the prevention of disruptions caused by excessive noise and intense light (Chaudhury et al., 2005). Barlas et al. (2001) agreed with the aforementioned statement by scrutinizing the noise disturbance in the ward accommodation. Noise disruption has found to be disrupting patients' sleep and consequently affecting their health (Freedman et al., 1999). Many research, investigating patients' preferences or expectations, indicate the common findings which were clustered in having physical comfort, sufficient exposure to nature, adequate lighting and having privacy (Evans and McCoy, 1998). These indicators were almost matched up with the ones that have been collected by Andrade et al. (2012). Patients underscored the visual, auditory privacy and natural light allowance (Andrade et al., 2012). Alalouch et al. (2016) has recognized the lack of standards and design criteria for the application of privacy, especially visual privacy in ward concept and by using the toolkits to collect all the relevant evidence and standards' information came up with fourteen criteria (social interaction, outside views, en-suite location, patients' control over their surroundings, other facility spaces for patients such as family support) which affect space of the room, privacy and visual privacy all together. As the result of a study, where qualitative and quantitative methodologies were used on 35 patients, conducted by Douglas and Douglas (2005), aforementioned design criteria along with room decor were categorized as matters to be improved. The necessity of such considerations in the design of healthcare environments has been justified by the findings of many researchers, which were focusing on the effects of functional units in the healthcare environment on the patient's healing process (Ulrich, 1997). Alalouch et al. (2009) have emphasized the room configuration and its impact on privacy and have stated high control and low integration features as the reasons for patients' choice for the single room. Patients' control on the arrangement of the curtains can be given as an example. Dijkstra et al. (2006) commented on the internal design and further illustrated its effect as a matter of social environment creation. Even the type and location of furniture in patient areas, which assist in forming social environment for patients, are considered to be affecting patients' health outcomes

(Baldwin, 1985). It is in line with what Douglas and Douglas (2004)'s study pointed out, which is the need for more homely and social environments.

Maben et al. (2016)'s comparative study of 100% single and shared patient accommodation has scrutinized the quality and safety aspects of the healthcare environment. Some of the parameters, which were asserted to be useful for patient centered approach, such as infection control and patient falls, have been observed to show little alteration according to the selected accommodation type (Maben et al., 2016). However, the advantages of having a single room such as increased privacy, dignity and minimized disruption were emphasized by Ulrich et al. (2008). This view has also been supported by Young and Yarandipour (2007). As part of the benefits pertaining to the single room, reduction of infections was defended and patients would be exposed to less risk for having infections in single rooms when compared to the bays (Ulrich et al., 2004).

2.4. STANDARDS AND REGULATIONS

Regulations are deemed to be in place to impose sanctions in the event of non-compliance with the standards or to increase the usage of standards (Nunes et al., 2009). The regulation was promoted and found to be supporting and pushing method for compliance when accompanied with other mechanisms (Urge-Vorsatz et al., 2007). It is important to choose the regulatory method appropriate for supporting the current organizations and processes. In Imrie and Street's (2012, as cited in Mills et al., 2012) study, where a survey is being conducted to make sense between the organizational structure changes and regulatory schemes. Furthermore, according to the risk apportionment, benefits stemming from the use of different regulations have been investigated (Imrie and Street, 2012, as cited in Mills et al., 2012). Berwick's report emphasized and cited the top down approach for the regulatory conformity along with the uptake of investment (Berwick, 2013). In order to arrange this push and pull mechanism, persuasion from the bottom, namely fostering the relationship between interdisciplinary and institutional organizations and controlling over the top, structuring well-organized monitoring arm's length bodies could be deployed with harmony and flexibility between them (Ayres and Braithwaite, 1992, p.25). Whereas regulations are focused on achieving outcomes, the above-mentioned hybrid method gives flexibility to the application of standards by highlighting the process, output and outcome within the context of Baldwin's aspects of regulation (Mills et al., 2015a). In the absence of measurable outcome based standards, targets such as patient safety are likely to be reflected the applications. Therefore, McDermott et al. (2013) emphasized the importance of the transition from national policy to the local context in order to enhance the uptake of such initiatives. Alterations to the policy context while devolving to local areas may be necessary for the effective realization of the benefits. This type of integrated regulatory approach is expected to align the market and design stand.

Mills et al. (2012) mentioned the current trend of moving to an integrated approach in the UK and benefits of the mixed regulation scheme, where all kinds of regulation instruments such as direct regulation, self-assessment, incentivization are used where necessary to exploit benefits. The consequences of using only one governing instrument were approached by Bevan (2008) in relation to the self-assessment, which could not be the best solution for quality and safety assurance of some relatively small sized trusts. Mills et al. (2012)'s research crystallized how to improve the quality of the end products by changing the approach to the application of standards, which is the shift from detailed specifications to outcome focused standards. Standards' evolution with the impacts of the regulatory system is inevitable. Requirements for increased flexibility of societies' needs in local regulation and meeting performance goals at the same time have changed the nature of standards (Foliente, 2000). This shift in the perception of standards and its contribution to innovation along with many other parameters were discussed by Sexton and Barrett (2005). Previously as in Foliente (2000)'s study, flexibility in the standards and focusing on the outcomes and performance were essential to fulfill the requirements stemming from public participation and different stakeholders. From changes in the healthcare sector, it can be understood that stakeholder and public consultation have a role in the application of standards and guidance.

Public and stakeholder involvement have been subjected to many discussions regarding their benefits and outcomes. Crawford et al. (2002) have found the subjected process to be neutral to the quality and service efficiency. Rowe and Shepherd (2002) pointed out the obstacles in front of the public to enable the full engagement and further suggested to be used currently for decision making. On the other hand, according to Church et al.'s (2002) study, changes made and schemes applied were found to be ineffective for the enhancement of public participation.

During such involvement, conflicts, which were considered to have arisen from different perspectives such as consumerism and democratic, have been evaluated by Milewa et al. (1998). Formation of the participants' perspectives based on their roles has been considered to have an impact on their input to the design process (Charles and Demaio, 1993). Even though the mixed regulatory scheme is looking for substantial public and stakeholder contribution, shortcomings of such in the application have been investigated by many researchers (Hignett and Lu, 2009; Payne et al., 2015). Certain aspects such as reliance on decision making, transparency of the determinations, policy effects and citizen control degree were the ones observed by Payne et al. (2015). Hignett and Lu (2009) emphasized the need for reinforcing the engagement between designers and stakeholders and raised the conflicts which are borne from different approaches; consumerism and efficiency. In practice, Mahadkar et al. (2010)'s study has highlighted the various applications of stakeholder consultation in various projects. Nevertheless, quality assurance is deemed to be achieved with the help of stakeholder and public consultation more easily as the result of the study of Mahadkar et al. (2012).

As previously mentioned, the definition of fit for purpose environment has changed over the last two decades. In light of these changes, standards were considered to be out of date (Moss et al., 2001). When the design was based on the standards which could not meet the recent requirements, the product designed accordingly cannot be expected to be fit for purpose or clinically safe. When the currently used HBNs are considered, which apparently has more prescriptive nature than other types of standards such as HTMs (Wanigrathna et al., 2016), space standardization can be achieved with the use of prescriptive information. For the application of space standardization wholly, acute hospitals are found to be the best option in order to exploit standardization's benefits (Pickard, 2005). However, Ahmad et al. (2014)'s study indicated that scrutinized elements as part of the space standardization such as critical room dimensions, shape, form, configuration of the room, provision of fixtures and furniture have influence on the judgement of the access points, support facilities, views from bed and to bed, privacy and floor area. Another reason, why minimization of standards is aimed, can be explained by current practices. For instance, it seems that there are various types of pantry sizes within 1240 different room specifications (Hignett and Lu, 2008). As part of Hignett and Lu's (2008) study, architectures' observation is that areas, providing the same services and having the same functionality, are designed in fifteen different approaches. Currently, prescriptive and detailed standards are required to be more flexible to adapt the changes and be agiler (Black et al., 2009). In addition to that, co-production of standards is deemed to be beneficial in order to prevent the overlap of information. Such a problem is mostly encountered in the design of specific elements where the private consultation is needed for determination. As the result of amendments made for specific design elements, changes in the application of standards are inevitable (Mills et al., 2015a). This meant that the standards are to be seen as a reference rather than mandatory requirements.

When the current design standards' usage in design briefs are considered, Wanigarathna et al (2016)' study indicate that the incorporation of information, obtained from previous experiences and/or according to performance as per conditions on the site, amend the standards mostly. The interrelation between prescriptive and performance specifications was seen as cross checking in different stages of the design (Wanigarathna et al., 2016). In light of this research, usage of sole specifications would not solve design issues, and holistic thinking is required by embodying the practice-based information along with the subjected specifications. Lindahl et al. (2010) has also dwelt on the shortcomings in the standards and guidance and has proposed five approaches for rectification of the current standards. Whereas uptake of evidence based standards and constituting guidance and standards corresponding to the recent market needs such as patient safety, measurable benefits etc were aligning with other researchers' findings, strategic planning and creating learning environment by reflecting from feedbacks along with the improvement in design tools were other suggestions to be promoted (Lindahl et al., 2010). Phiri et al. (2011) concluded the same areas of improvement by looking into healthcare projects from the perspective of healthcare professions and focus groups in order to get best out of the standards.

As the standards and guidance are deemed to be the best practice for fulfilling the criteria, that is required by the controlling bodies, such as being fit for purpose, clean and safe, different implementation of Post Occupancy Evaluation (referred hereinafter as POE) does not allow guidance and standards be improved and results in the gap between theory and practice (Henderson et al., 2013).

Interpretation of standards and guidelines has led to different ergonomics in room design and among them, the same-handed room, where the ergonomics were applied in the same way to each room, was concluded as the safest environment for patients (Reiling et al., 2006). Furthermore, Reiling et al. (2006) indicated enlargement of space for bathroom and around the bed for safety reasons and favored same handed room as it increases the therapeutic environment of patients. As to the other room design proposals, some of the facilities were encouraged to be added such as nursing stations which were thought to increase patient satisfaction by reducing noise (Zborowsky et al., 2010). As the result of reviewing practice based applications by Zborowsky and Bunker-Hellmich (2011), most of the applications except for the placement of the bathroom in relation to bed are replicated. According to Price and Lu (2013), suitability of room dimensions is to be determined by considering operational services since only the stipulation of room size may not be sufficient for standardization.

3. RESEARCH DESIGN AND METHODS

3.1. INTRODUCTION

This chapter outlines the methodology accommodated in order to achieve the aim and objectives set out in section 1.3 of this dissertation. In the first section, the selected case study approach and sampling strategy were discussed. In the succeeding section, the data collection framework was presented along with the principal sources of data. Then, the analysis of the collected data was scrutinized. Finally, last section was regarding the ethical compliance process followed.

3.2. RESEARCH APPROACH

The research approach for this study was chosen by centering on the research question. A case study approach was selected to capture the complexities of the phenomenon. Case study approach was found to be appropriate for research where a specific phenomenon in its real-life context is comprehensively analysed and thorough understanding of this phenomenon is presented thereupon (Simons, 2009). The aim of this dissertation is to investigate the space standards and how they are formed in the design brief of public healthcare projects. In which circumstances, specification frames are being deviated were investigated through multiple case studies. Therefore, in order to have in depth understanding of the space design practices implemented in publicly funded hospital projects, a case study based approach can be considered the best way to detect the compliances and noncompliances with the UK standards and guidance.

According to Yin (2014), purposes of conducting research are collected around three clusters; exploratory, explanatory and descriptive. Exploratory case studies can be considered as useful for theory testing and/or scrutinizing the theory in depth. The descriptive case study focuses on a phenomenon, process or system which are the subject of the research. As for explanatory case study, an answer to a specific question and/or understanding for issues are trying to be reached (Fellows and Liu, 2008). To find out which one suits better, questions of “Are you describing a case, exploring a case or comparing cases?” (Stake, 1995, p.41) are considered. As the result of that, descriptive case method is found to be more appropriate to base the case studies on. In this research, compliances with space standards in design stage were investigated, and with this approach, understanding regarding the subjected process or phenomenon deepened.

Despite the above-mentioned facts, there are some limitations and discussions pertaining to the case study approach. While some of the researchers point out the fact that findings from case studies cannot be generalized, others are arguing that it is not the purpose of the case study approach to improve the external validity and broaden the boundaries of the research thereby (Bryman, 2016). Moreover, when the theoretical and practical knowledge is considered and compared in the context of case study approach, regarding its importance, theoretical knowledge outweighs (Flyvbjerg, 2006). In that respect, it seems the distinctive feature of case study approach, which is having thorough understanding of the specific practice, is deemed to be disregarded (Silverman, 2011).

As to the sampling strategy, representative case studies are found to be the most convenient to use. The reason behind is that the investigation of the whole population set requires more time and resource (Bryman, 2016). This strategy aims at offering the conditions of ordinary situations, namely examples of broad context rather than unique ones (Yin, 2014). Therefore, purposeful sampling is selected. This enables the individual to collect a greater amount of information from the subjected intentionally selected cases (Patton, 1990).

Whilst it may be argued that other case study approaches such as longitudinal case study can substantially improve the validity of the findings by evaluating the implementation of the standards and effects of changing policy and regulatory landscape in longer term, and with rigorously selected criteria, it would not be applicable to this academic study due to the time constraints.

Criteria defined for the selection of representative case studies are the development type, service provider type, funding type, occurrence of single room and recency of the case study. Funding structure is an important parameter when it comes to the hospital development projects. Thus, publicly funded projects are selected for obtaining relevant information to address the objectives. Consequently, PFI, PF2 and other private finance schemes are not considered as part of the population set. Another important issue to be considered was whether the cases were conducted in last ten years due to the validity reasons. As the standards, policy, and guidance have dynamic feature, comparison of cases constructed in different time line means that they were built based on different baselines. That may deteriorate the findings derived from case studies. In addition to that, it is significant to discriminate as per the type of service provision. Since the mental health care facilities have different types of requirements, selected case studies are to be hospitals. Each case study is meeting the selection criteria set out as it can be seen in the below given table:

Table 3.1 Selection Criteria for Case Studies

Selection Criteria	**Selected Case Studies**		
	Brighton and Sussex University Hospital	**Hillingdon Hospital**	**Scarborough Hospital**
Funding Scheme	Publicly Funded	Publicly Funded	Publicly Funded
Development Type	New Construction	New Construction	New Construction
Date of the study	2016	2007	2012
Type of service provision	Hospital	Hospital	Hospital
Type of the facility area investigated	Single Room Ward	Single Room Ward	Single Room Ward

The unit of analysis is single in-patient room of hospitals in the UK that were constructed as part of a new building. Underlying reasons of choosing in-patient rooms were mentioned in the literature review section. Since the representatives of this projects are addressing the specific location of the hospitals, the outcome cannot reflect on all aspects of space standards' compliance in UK public projects.

3.3. DATA COLLECTION

Selection of the data collection method is essential in a way that it can prevent a researcher from reaching the objectives of this study. There are two types of data; primary data and secondary data.

A significant feature of the primary data is stemming from the conveyance of the data without being exposed to any interpretation (Thomas, 2006). Examples of such are questionnaires, interviews, and observations made directly.

In the case of secondary data, data gathered by other bodies for their specific purpose is being used. Government publications, case studies, statistics and electronically available publications are considered as the examples of secondary data (Creswell, 2003).

For the realization of this study, three case studies have been used as data sources. Therefore, this research is conducted by collecting secondary data. The advantage of this method is considered to be less resource consuming and allow researcher focus more on the analysis of the collected data (Bryman, 2016). On the other hand, arguments against the use of secondary data are generally accumulated around its reliability when compared to the primary data. The reason for that is the interpretations from other authors may mislead the researcher or distort the data content (Walliman, 2005). However, this study is not subjected to that discussion. Since the data derived from these cases were related to the type of reported data and were not related to the comments of the authors, secondary data, which were used in this study, was reliable. Data retrieved from the sources of cases was consisting of both qualitative and quantitative data. Analytical framework dealt with both types of data.

Data was collected from various resources including but not limited to the government websites, NHS trusts' official websites, NHS supporting groups' websites and other related websites. A range of documentation such as conference proceedings, research papers and case studies has been extracted from different resources. Summarize of the principal sources of data for each case studies can be found in table 3.2 herein below.

Table 3.2 Principal sources of data

Case Study	Sources
Brighton and Sussex University Hospital	1. Brighton and Sussex University Hospital (2016) 3Ts Hospital Redevelopment: Full business case, drawings, documents and minutes. Retrived on 09.07.2017 from:
	https://www.bsuh.nhs.uk/about-us/hospital-redevelopment/about-the-redevelopment/technical-documents-and-drawings/#6
	2. RICS Isurv (No date) Brighton and Sussex University Hospital BIM Case Study. Retrived on 09.07.2017 from:
	http://www.isurv.com/site/scripts/documents_info.aspx?documentID=8058&categoryID=1246&pageNumber=2
	3. CQC (2016) Inspection report of Brighton and Sussex University Hospital. Retrived on 09.07.2017 from:
	http://www.cqc.org.uk/sites/default/files/new_reports/AAAF5032.pdf
	4. Institute of Healthcare Engineering and Estate Management (No date) Lord Carter Innovation Awards Submission - Brighton and Sussex University Hospital Case Study. Retrived on 09.07.2017 from:
	https://www.iheem.org.uk/write/Documents/Carter%20Award/Final_LCIA_submissions.pdf
	5. Tillmann, P, Sapountzis, S, Tzortzopoulos Fazenda, P and Formoso, C.T. 2012, A Case Study On Benefits Realization And Its Contributions For Linking Project Outputs To Outcomes, in: 19th Annual conference of International Group of Lean Construction, 17-22 July 2012, San Diego, California, USA

Hillingdon Hospital	1. West P, McDonagh S, Burke M, Trueman P (2010), Evaluation of Hillingdon Hospital Single Rooms Pilot Site - Part 1: Final Literature Review and Final Report. Department of Health.
	2. Maben, J., Penfold, P., Glenn, R., Griffiths, P. (2012). Evaluating a major innovation in hospital design: Workforce implications and impact on patient and staff experiences of all single room hospital accommodation. Report of phase 1 findings for HaCIRIC2012.
	https://www.kcl.ac.uk/nursing/research/nnru/publications/Reports/Single-Room-Hospital-Accomodation—HaCIRIC-Phase-1Report—June-2012.pdf
	3. McDonagh S., Blackbond K., (2011) The Hillingdon Hospital NHS Trust: Bevan Ward Research: the findings and next steps, Report to the Trust Board: February 2011
	4. Hillingdon Hospital NHS Trust (2007) The Hillingdon Hospital Single Room Pilot Ward - Hillingdon Hospital NHS
	https://www.thh.nhs.uk/services/research/bevan/index.php
	https://www.thh.nhs.uk/services/research/bevan/3designs.php
	5. Medical Architecture (No date) Acute Single Bedroom Research – Bevan Ward. Retrived on 09.07.2017 from:
	http://www.medicalarchitecture.com/projects/bevan-ward/

Scarborough Hospital	1. Procure21+ NHS (No date) Case study: Scarborough Hospital: Maple 2 ward. Retrived on 09.07.2017 from:
	http://www.procure21plus.nhs.uk/wp-content/uploads/2015/10/RRSC-case-study-York-lo-res.pdf
	2. Procure 21+ NHS (2012) ProCure21+ Reducing the cost of construction through standardisation Repeatable Rooms Catalogue. Retrived on 09.07.2017 from:
	http://www.procure21plus.nhs.uk/wp-content/uploads/2015/07/Repeatable-Rooms-Catalogue-1506.pdf
	3. Institute of Healthcare Engineering and Estate Management (No date) Lord Carter Innovation Awards Submission - Brighton and Sussex University Hospital Case Study. Retrived on 09.07.2017 from:
	https://www.iheem.org.uk/write/Documents/Carter%20Award/Final_LCIA_submissions.pdf

3.4. DATA ANALYSIS

Yin (2014) collected the analysing strategies in four clusters. These are 1) analysing based on theoretical propositions 2) developing the case description 3) using qualitative and quantitative data and 4) analysing based on the rival explanations. Under the context of these general strategies, analytical techniques such as pattern matching, explanation building, time series analysis, logic models and cross-case methods can be used. As far as this research is concerned, data was analysed by using qualitative and quantitative data for cross case method along with pattern matching.

Pattern matching technique is the nexus between two patterns. Whereas one pattern is drawn from the observations and findings of the case studies, the other is a theoretical one obtained from the literature review (Trochim, 1989). Pattern matching allows the discussions from theoretical and practical sides to become apparent and allows researchers to find the similarities and differences (Yin, 2014). The subjected data analysis approach points out the differentiating features of the patterns from the theoretical knowledge retrieved from publications in the literature review. Findings from case studies reinforce and/or contribute to the previous research knowledge in the subjected context (Yin, 2014). In this research, patterns from case studies were observed to find out where the non-compliances, if there are any, have taken place according to the standards, policies, and regulations. This was supported by the extracted qualitative and quantitative data reported in the case studies.

Data was analysed in two phases. In the initial phase, background information related to the projects was given briefly. Following that, by asking following questions, required information regarding the space standards applied was analysed.

1) What are the standards that have been used?

2) What are the schedules of accommodation, room shape, bed room size and configuration, floor areas and bathroom pertaining to the single inpatient room?

3) What is the proportion of designated single room area when compared to all rooms in the hospital facility?

4) Which of the key space elements (workstation, family support zone, clinical support zone, bed space, en-suite bathroom) are included in inpatient rooms? How are they formed in inpatient rooms?

5) How the therapeutic landscape is constructed in the subjected rooms?

3.5. RESEARCH ETHICS

It is important to ensure the integrity of the research. One of the most important subjects is to take research ethics into account along with the data collection and analysis (Bryman, 2016). In that respect, the university's research ethics approval process has been carried out. By considering the fact that this study does not involve human personal data, questionnaires, surveys, human samples and/or any interview techniques, the ethics form was prepared accordingly. Following that, the ethics form was submitted to and approved by the Ethics Committee of the university.

4. KEY FINDINGS

4.1. INTRODUCTION

As part of this chapter, the three case studies that were listed in the previous chapter have been assessed. In order to have a better understanding for each case study, background information was provided. Space standards that were implemented in the publicly funded hospitals have been analysed. Similarities and differences of the implementations in each case studies were detected through cross case method. In the final section, discussion regarding the application of space standards was taken place with reference to the relevant literature.

4.2. CASE STUDY 1: BRIGHTON AND SUSSEX UNIVERSITY HOSPITALS

4.2.1. BACKGROUND INFORMATION

Royal Sussex County Hospital in Brighton, which was built in 1828, will be replaced and redeveloped until 2020 (Institute of Healthcare Engineering and Estate Management, No date). The new hospital is planned to be addressing the challenges of the 21st century in line with the requirements stipulated in policies (Tillmann et al., 2012). For instance, “The NHS Plan, A plan for investment, a plan for reform” (DoH, 2000), ‘The Essence of Care’ (DoH, 2001), “Delivering the NHS Plan: Next Steps on investment, next steps on reform” (DoH, 2002), “The NHS Improvement Plan: Putting People at the Heart of Public Services” (DoH, 2004), “Our Health, Our Care, Our Say: A New Direction for Community Services” (DoH, 2006), “Healthcare for London. A Framework for Action” (NHS London, 2007) and “High-Quality Care for All: NHS Next Stage Review Final Report” (DoH, 2008) were some of the policies that resulted in fundamental change. This project began in 2012 and will be completed in three phases. Inpatient rooms’ construction was completed under the first phase.

The total cost of this project is computed as £485 million (Institute of Healthcare Engineering and Estate Management, No date). As part of this development programme, outdated and inefficient wards in Barry Building and Jubilee Wing were replaced and constructed to be fit for purpose.

This project is a publicly funded project. Throughout its planning permission process, many revisions took place between 2009 and 2012 and finally in 2012, final revision was approved, and planning consent was obtained. The need for increasing floor spaces has been recognized as part of this project for the ward areas (Brighton and Sussex University Hospital, 2016).

Figure 4.1: Proposed redevelopment project for Brighton and Sussex University Hospital (Brighton and Sussex University Hospital, 2016)

This new development is planned to be satisfying the needs for tertiary services and will be the central hub for patients around Brighton area (Tillmann et al., 2012).

4.2.2. IMPLEMENTED SPACE STANDARDS

(source: Brighton and Sussex University Hospital, 2016)

1. *What are the standards that have been used?*

Standards chosen for the designation of space in inpatient rooms were HBN 04-01 (Adult inpatient room standards under Inpatient Accommodation for Choice) and other HBN 00 series where necessary such as such as HBN 00-01 (Designing Health and Community Care Buildings) and HBN 00-03 (Designing Generic Clinical and Clinical Support Spaces).

2. What are the schedules of accommodation, room shape, bedroom size and configuration, floor areas and bathroom pertaining to the single inpatient room?

From the schedules of accommodation (referred to Appendix-1), non-compliant features of single inpatient rooms were extracted and summarized in the below given table.

Table-4.1: Space standards' compliance check for adult single inpatient rooms in Brighton and Sussex University Hospital

Comparison Table						
No	**Description of Items**	**Unit**	**Design Standards (HBN 04-01 & HBN 00-03)**	**Internal Adjacent En-suite**	**Compliance Check**	**Comments**
1	Bedroom Net Internal Area	m^2	19,00	17,00-20,00	☒	Room sizes are changing between 17m2 to 20m2.
2	En-suite Net Internal Area	m^2	4,50	4,70	✓	En-suite floor space is changing for every inpatient rooms.
3	Bed Space (3600mmx3700mm)	m^2	13,32	12,67	☒	Applied bed space is 3520mm x 3600mm
4	Staff based touchdown depth	mm	1.600,00	1.450,00	☒	Recommended depth is 1600mm when sitting

Room layout is the internal adjacent en-suite type and the same for every inpatient room. However, due to the idiosyncratic shape of the building, rooms' layouts are not identical, and sizes are not same as can be seen in the floor layout (referred to Appendix-2). Doors of en-suite facilities are double wing.

3. What is the proportion of designated single room area when compared to all rooms in the hospital facility?

Single rooms are corresponding to nearly 65% of total patient rooms in this hospital.

4. Which of the key space elements (workstations, family support zone, clinical support zone, bed space, en-suite bathroom) are included in inpatient rooms? How are they formed in inpatient rooms?

There was no space allocated for accompanying to the patients as part of family support zone. Clinical support zone, wash hand basin and workstations such as touchdown base were placed in the internal wall as part of the design of single inpatient rooms. Handrails from bed to bathroom were considered in the design. Lockers, cabinets for medicine storage and patients' clothes, chairs and clocks were included in the subjected room. Low-level lighting was used in the single room design. In the headwall, no medical gas outlet was found. For security purposes, alarm systems and entrance with the card were utilized in single rooms.

Figure 4.2: Inpatient room design in Brighton and Sussex University Hospitals (Brighton and Sussex University Hospital, 2016)

5. How the therapeutic landscape (view, patients' control on the surrounding, social space, artwork) is constructed in the subjected rooms?

Beds' being located in the side of exterior wall maximised the exposure of natural light. Observations of patients could easily be made without any difficulty. Most of the single inpatient rooms have sea views. The artwork has not been forgotten in the single inpatient rooms of Brighton and Sussex University Hospital. Patients have the control of adjusting the lighting and heat of their rooms.

4.3. CASE STUDY 2: HILLINGDON HOSPITAL

4.3.1. BACKGROUND INFORMATION

The Bevan Ward of Hillingdon Hospital has been undertaken as a pilot project for the government. Observations have been made to reveal the advantages and disadvantages of different spatial layouts in ‘T’ shaped building. Bevan Ward opened in 2008. It has been undertaken with the public fund. The area covered by the Bevan ward is approximately 1000m^2. One storey building was constructed adjacent to the existing building with modular off-site construction method. Design and construction of 24 bedrooms of Bevan Ward cost roughly £2.6 million (Medical Architecture, No date). The aim was to increase workforce efficiency, a reasonable allocation of assets and meeting the patients’ choices for the hospital environment. Before the construction of all units, in order not to have operational inefficiencies in the future, mock-up has been made to test the ergonomics.

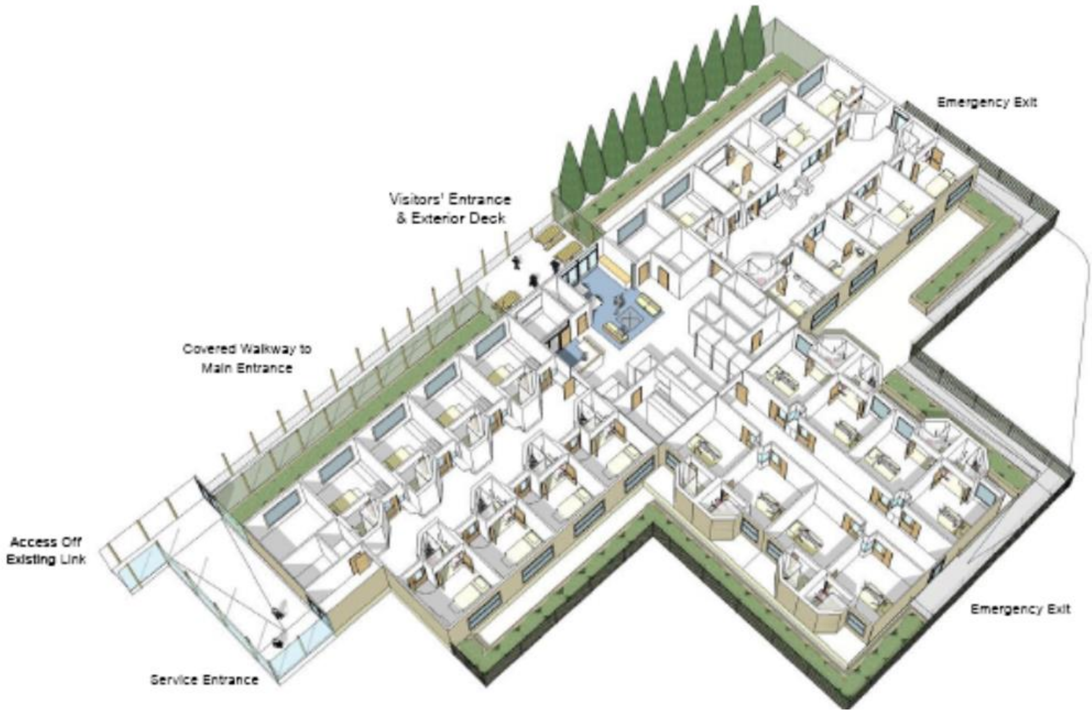

Figure 4.3: Bevan Ward layout in Hillingdon Hospital (Hillingdon Hospital NHS Trust, 2007)

4.3.2. IMPLEMENTED SPACE STANDARDS

1. What are the standards that have been used?

The design of Bevan Ward was carried out by taking HBN standards into account. Corresponding HBN standards were HBN 04-01 (Adult inpatient room standards under Inpatient Accommodation for Choice) and related HBN 00 series such as HBN 00-01 (Designing Health and Community Care Buildings) and HBN 00-03 (Designing Generic Clinical and Clinical Support Spaces) (Hillingdon Hospital NHS Trust, 2007).

2. What are the schedules of accommodation, room shape, bedroom size and configuration, floor areas and bathroom pertaining to the single inpatient room?

Three different types of room layout have been used for the designation of three sections. All of them met the minimum space requirements for the bedroom and en-suite, which are 19 m^2 and 4,5 m^2 respectively as per HBN 04. Requirement pertaining to the clearance around the bed, which is to have 3600mmx3700mm, has been met in all three sections (Hillingdon Hospital NHS Trust, 2007).

Room layouts adapted were differentiating. Internal, external and in-between en-suite types were adapted. In green ward layout, as can be seen hereinbelow, identical rooms have been placed without any difference between each other and layout, form and ergonomics have been replicated. This has been referred as 'same handed' rooms (Hillingdon Hospital NHS Trust, 2007).

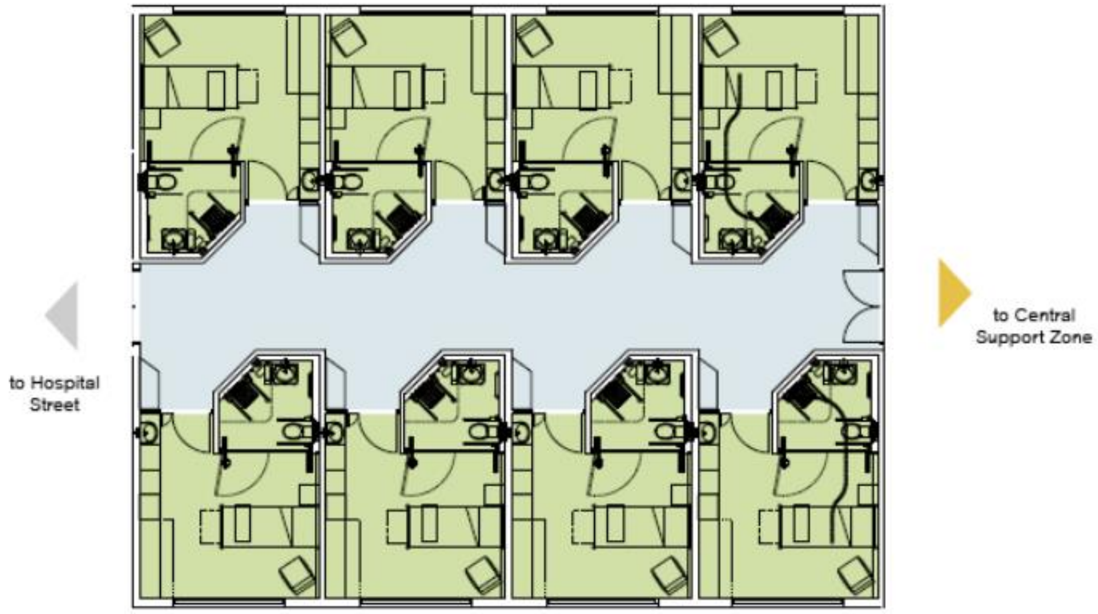

Figure-4.4: Green Ward Layout in Bevan Ward (Hillingdon Hospital NHS Trust, 2007)

As can be seen, en-suite of the room is placed on the corridor side, which is referred as the internal en-suite room.

As to the configuration of the room, patient bed and ensuite have been placed on the same side. Both accesses for patients have been provided in the same direction. Due space for the selected door type for ensuite, which in this case single wing, was considered. For staff to actualise the clinical support, required medical equipment was placed opposite side of the bed.

In blue ward cluster, of which layout can be seen herein below, the external en-suite type has been applied (Hillingdon Hospital NHS Trust, 2007).

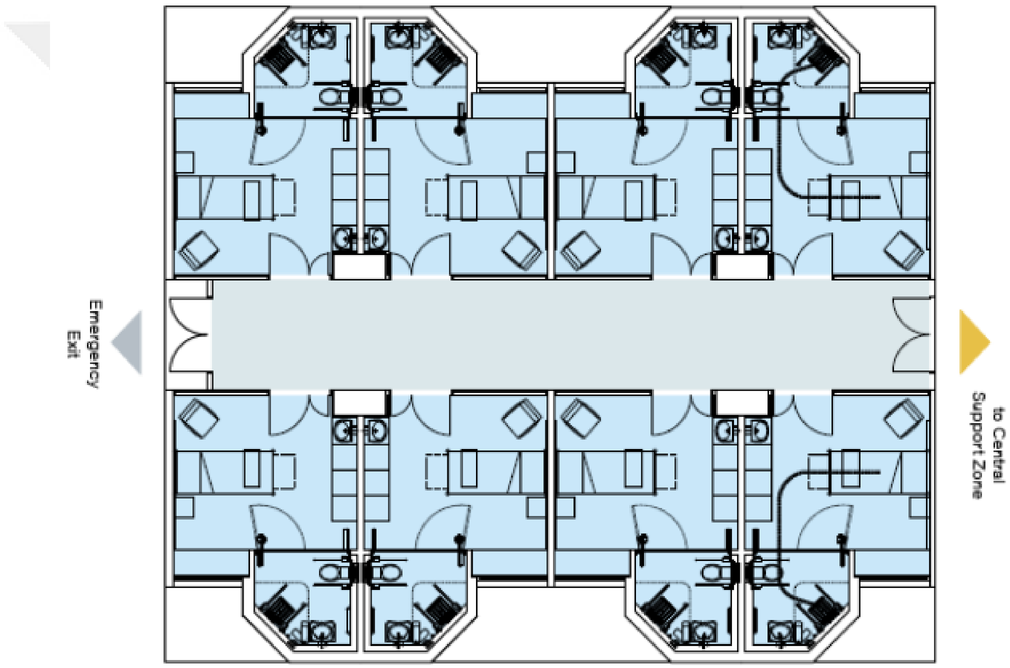

Figure-4.5: Blue ward layout in Bevan Ward (Hillingdon Hospital NHS Trust, 2007)

Even though the same furniture was deployed as in the previously mentioned ward, internal design is different. En-suite is not located on the same side with the patient bed. Access for the patients to the bathroom and corridor are opposing. Clinical support tools are located opposite side of the bed.

In the lilac coloured ward, the mixed scheme has been applied by both using in-between and internal suites (its layout can be found in Figure 4.6 given below).

Whereas en-suite is on the opposite side of the patient bed in in-between suite type, in internal suite type, patient bed and bathroom are on the same side as previously mentioned. Differentiating property is that in in-between suite rooms, clinical support area is located adjacent to the corridor. Bathroom doors were subjected to change, and instead of using the door, access has been provided with sliding door in order to prevent clash (Hillingdon Hospital NHS Trust, 2007).

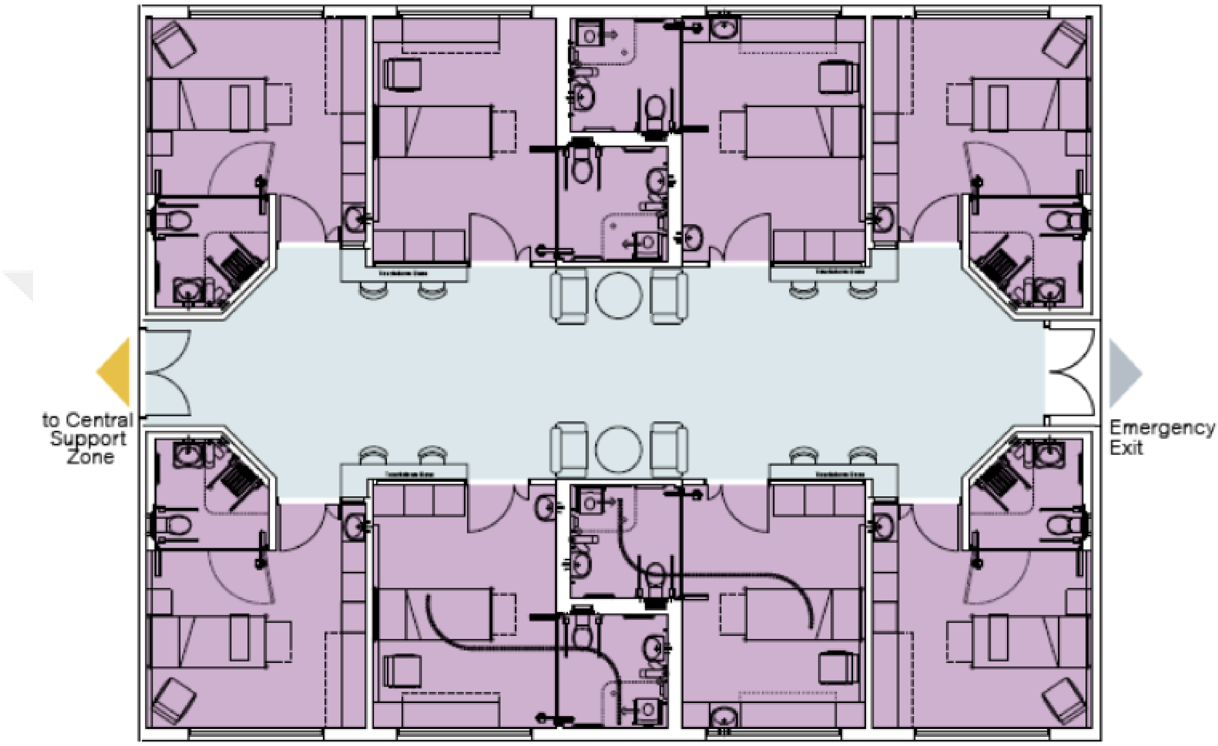

Figure-4.6: Lilac Ward Layout in Bevan Ward (Hillingdon Hospital NHS Trust, 2007)

Among all the other ward layouts, lilac ward rooms are the ones which cover the biggest floor space (Hillingdon Hospital NHS Trust, 2007).

3. What is the proportion of designated single room area when compared to all rooms in the hospital facility?

In the Bevan ward, inpatient rooms are all designed as to be single en-suite. Therefore, the ratio of single room deployment is 100% (Maben et al., 2012).

4. Which of the key space elements (workstations, family support zone, clinical support zone, bed space, en-suite bathroom) are included in inpatient rooms? How are they formed in inpatient rooms?

Touchdown base to increase the communication was considered as part of the workstation. Family support zone and clinical support zone including wash basins are part of the single rooms in Bevan Ward.

5. *How the therapeutic landscape (view, patients' control on the surrounding, social space, artwork) is constructed in the subjected rooms?*

In terms of visibility for staff to check the patients, the lilac ward had the best-designed rooms. On the other hand, in the green ward, it has been found difficult to see the patients' situation without entering the room. Large windows in the corridors were enabling staff to check the patients in lilac ward easily. In blue wards, there were small windows near the workstation where the staff can easily see the patients' bed. When the patients' view to the outside is considered, lilac ward provides the largest visual space looking outside. Except for lilac ward, none of the wards has a socialization area. Patients are not able to control their lighting and curtains. Call buttons were provided for that but this limited the patients' control. Furthermore, patients do not have much space for social interaction. Best facilities provided for that were considered in lilac ward rooms. On the other hand, magazine and/or newspaper distribution is not undertaken regularly. Also, artwork could not be found in any of the rooms (West et al., 2010).

Figure 4.7: Lilac ward design (Hillingdon Hospital NHS Trust, 2007)

Figure 4.8: Blue ward design (Hillingdon Hospital NHS Trust, 2007)

Figure 4.9: Green Ward Design (Hillingdon Hospital NHS Trust, 2007)

4.4. CASE STUDY 3: SCARBOROUGH HOSPITAL

4.4.1. BACKGROUND INFORMATION

Lilac ward of Scarborough Hospital was constructed on top of the existing ward on the ground level and completed in 2015. 32-bed wards' design and construction cost was approximately £5 million. The publicly funded project was finalized in 2015, and Post-Occupancy Evaluation was applied over two years period as part of being Government Soft Landings' pilot project. Ground floor, where Maple Ward is located, was designed to allow for vertical extension, namely constructing another storey on it. Having commissioned a new ward, Maple Ward, in 2012 has paved the way for closing the out-dated Nightingale Ward. These two events triggered the construction of Lilac Ward, which is planned to have 15 single bedrooms, four four-bed bays, and two treatment rooms. Since it was scheduled to be built on an existing structure, scanning of the existing structure has taken place. In April 2014, construction commenced, the area to be built on is nearly 1200m^2 (Institute of Healthcare Engineering and Estate Management, No date).

4.4.2. IMPLEMENTED SPACE STANDARDS

1. What are the standards that have been used?

HBN 04-01 (Adult inpatient room standards under Inpatient Accommodation for Choice) has been appealed to design the inpatient rooms (Procure 21+ NHS, No date).

2. What are the schedules of accommodation, room shape, bedroom size and configuration, floor areas and bathroom pertaining to the single inpatient room?

A table summarizing the comparison of sizes of the room, bed, bathroom, window, and door with design standards were prepared in order to detect the noncompliances.

Table-4.2: Space standards' compliance check for Lilac Ward Single Inpatient Rooms

Comparison Table					
No	**Description of Items**	**Unit**	**Design Standards (HBN 04 & Design Manual 2011)**	**External En-suite**	**Compliance Check**
1	Bedroom Net Internal Area	m^2	19,00	18,50	☒
2	En-suite Net Internal Area	m^2	4,50	3,80	☒
3	Window Size	m^2	N/A	1200mmx1200mm	✓
4	Observation of Patients		Vision Panel with 500mmx900mm dimensions	Glazed Screen with 900mmx1200mm	✓
5	Bed Space (3600mmx3700mm)	m^2	13,32	13,32	✓
6	En-suite Door Openning Size	mm	1.900,00	1.900,00	✓

The configuration of the room is different in a way that rectangular room shape has not been changed in contrary to the exemplars where façade has outgrowth due to the form of the en-suite. Door type used for en-suite was double wing door (Procure 21+ NHS, 2012).

3. What is the proportion of designated single room area when compared to all rooms in the hospital facility?

Single en-suite rooms constitute 50% of all rooms in Lilac ward (Procure 21+ NHS, No date).

4. Which of the key space elements (workstations, family support zone, clinical support zone, bed space, en-suite bathroom) are included in inpatient rooms? How are they formed in inpatient rooms?

Family support zone allocated by the provision of recliner, clinical support zone along with data outlets and wash hand basin were provided within this single room. Space for storing clothes and locker has been allowed in the design of the room. Furthermore, over bed table, bed head outlets for both staff's medical operations and for patients' usage have been considered. Low-level lighting was used and for floor coverings, linoleum type of flooring was applied. Handrails from bed to bathroom were not provided (Procure 21+ NHS, 2012).

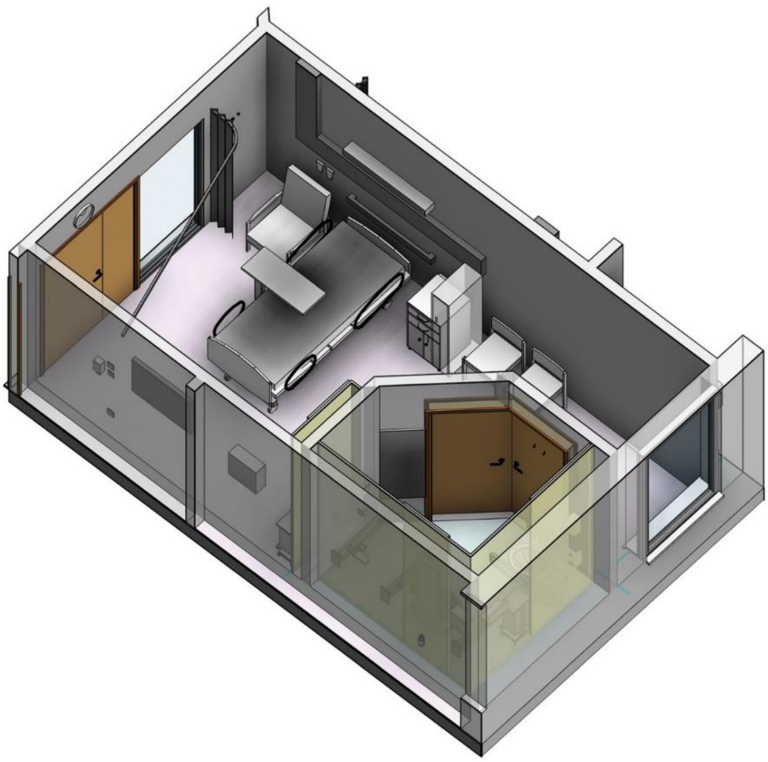

Figure-4.10: Lilac Ward Single Inpatient Rooms' 3D Model (Procure 21+ NHS, No date)

5. How the therapeutic landscape (view, patients' control on the surrounding, social space, artwork) is constructed in the subjected rooms?

Large window near the door looking directly patient beds eased the observation of patients. However, patients' tie with the outside environment was not designed in the best way. Natural light entree due to relatively small sized windows and being away from patient's bed were the indicators of not well therapeutically designed areas. Whereas there is no space for communal areas, art was not forgotten in the design of the rooms (Procure 21+ NHS, 2012).

4.5. CROSS CASE ANALYSIS

In this section, information collected from each case study pertaining to the implementation of space standards was analysed and compared. Patterns of different and similar implementations were revealed for the space standards used in case studies. Findings were summarized and depicted in table 4.3.

Table 4.3: Comparison Table of Implemented Space Standards

CRITERIA		**Brighton and Sussex University Hospitals**	**Hillingdon Hospital**			**Scarborough Hospital**
		Barry Building Medical Ward	*Lilac Ward Rooms*	*Blue Ward Rooms*	*Green Ward Rooms*	*Lilac Ward*
USED SPACE STANDARDS	*Standards Used*	HBN 04-01 HBN 00-01 HBN 00-03	HBN 04-01 HBN 00-01 HBN 00-03			HBN 04-01
ROOM SPACE CONSTRAINTS	*Room Shape & Configuration of the room*	Bathroom and bed are in the same side of the wall. Access is in one direction.	Bathroom location is changing. It can be in the same alignment and in the opposite side. Access is changing as well. It can be in single and double directions.	Bathroom is in the opposite side of the bed; Access to two different directions; access for bathroom and outside are not in the same alignment.	Bed and bathroom in the same side; Access is in one direction.	Bathroom is in the opposite side of the bed; Access to two different directions; access for bathroom and corridor are not in the same alignment.
	Bedroom size	Between 17,00-20,00 sqm. Full compliance could not be achieved.	19 sqm - compliant. Largest room area in Hillingdon hospital	19 sqm - compliant	19 sqm - compliant	18,50 sqm - non-compliant
	En-suite size	4,70 sqm - full compliance have been achieved.	4,5 - compliant	4,5 - compliant	4,5 - compliant	3,80 sqm - non-compliant
	Floor Area	Full compliance could not be achieved for every room.	Compliance with space requirements was achieved	Compliance with space requirements was achieved	Compliance with space requirements was achieved	Compliance with space requirements could not be achieved
	Bed Space	Applied bed space is less than the requirements.	Complied with by applying 3600mmx3700mm	Complied with by applying 3600mmx3700mm	Complied with by applying 3600mmx3700mm	Complied with by applying 3600mmx3700mm
	Room Layout	Internal Adjacent En-suite type - same handed rooms	In-between and/or nested en-suite rooms	external en-suite type	same handed rooms	external en-suite type
	Staff based touchdown depth	Less than the recommended length.	N/A	N/A	N/A	N/A
	En-suite Door Type	Double wing door	Single Wing door	Single Wing door	Single Wing door	Double Wing Door
	Room Door Openning Size	N/A	N/A	N/A	N/A	1900mm, complied with recommendations
	Window Size	N/A	N/A	N/A	N/A	1200mmx1200mm
	Observation of Patients	N/A	N/A	N/A	N/A	Glazed screen with 900mmx1200mm Larger than requirements

ROOM SPACE ELEMENTS	*Family Support Zone*	No	Yes-bed was provided for patients' families	Yes-bed was provided for patients' families	Yes-bed was provided for patients' families	Yes-recliner was provided for patients' families
	Clinical Support Zone	data outlets, wash hand basin	data outlets, wash hand basin	data outlets, wash hand basin	data outlets, wash hand basin	data outlets, wash hand basin
	Area for other purposes such as storage etc.	Storage space and locker are available. Chairs, Clocks	There is no clock in the room.	Not enough chairs for visitors	Storage space and locker are available	space for storing, locker, over bed table, bed head outlets
	Workstation	touchdown base considered inside	staff touchdown base (outside the room)	staff touchdown base (outside the room)	staff touchdown base (outside the room)	staff touchdown base
	Handrails	Yes - continuous from bed to bathroom	N/A	N/A	N/A	No continuous handrails from bed to bathroom
	Flooring Material	N/A	N/A	N/A	N/A	linoleum coverings
	Lighting	Low level lighting	N/A	N/A	N/A	Low level lighting - LED
	Security	Secure entry system and alarm systems	N/A	no lock for the bathroom	N/A	N/A
	Headwalls	No medical gas	nurse call button	nurse call button	nurse call button	N/A
SINGLE ROOM PROPORTION	*Number of Single Rooms/Total Room Number*	65%	100%			50%
THERAUPATIC ENVIROMENTS IN SINGLE ROOMS	*View*	good observation and outside view	best patient observation in bevan ward; best outside view for patients in bevan ward	decent patient observation worst outside view for patients in bevan ward	Poor patient observation; poor visuality to corridor	Clear patient observation, poor outside view and natural light entree
	Control	lighting and temperature	button location for controlling window is far from patient for lighting and other arrangements, call button is used.	room lighting and window blinds not controlled by patients - call button	room lighting and window blinds not controlled by patients - call button	N/A
	Social Space	N/A	larger and better community area	social space is not considered	social space is not considered	social space is not considered
	Art Strategy	yes	N/A	N/A	N/A	yes

4.5.1. IMPLEMENTED SPACE STANDARDS

Implemented space standards across the case studies are categorized for the five questions that were answered.

In terms of the space standards, all of the case studies took HBN series as the reference. Even though case study no.3 did not specifically mention the HBN series other than HBN-04, all the case studies used the relevant HBN series such HBN-04, HBN-00-01 and HBN-00-03.

The investigation into covering floor areas indicated that largest rooms are considered in case study 1 and 2. However, some of the rooms in case study 1 and rooms in case study 3 could not comply with the minimum required space. When main areas in the rooms such as ensuite and bedroom area are considered, en-suite space of case study is the largest. Case study 3 failed to comply the minimum space requirements. On the other hand, allowance of space around the bed was not met only in case study 1. Relation of positions of en-suite and bed against each other, when considered with space around bed, may lead to operational malfunctions. For instance, wheelchair turn may not be actualized as the result of non-compliance with space around bed standards when the en-suite door is opened. Room configuration is also as important as the space allocations. Internal and Internal adjacent en-suite types provide the best access for the patients' due to being in the same alignment. Also, same-handed rooms were provided to ease the operations of staff. Therefore, single rooms from case study 1 and green and lilac ward from case study 2 enabled patients' access to ensuite in an easier way. Furthermore, the common shape was not observed in the rooms. Differentiating applications were applied according to the existing site conditions. Different types of adaption of space standards and guidance has resulted in sacrificing some features in the building. Determination of the location of en-suite in single rooms affects the space left in the corridor or façade surface or noise exposure. From this point of view, the outboard type may increase the façade surface as in the blue ward room of case study 2. Case study 1 and green ward room of case study two can be examples of narrowed corridor of which consequences may prevent social interaction.

Provision of supporting facilities such as clinical support area and workstations were considered in all cases. Use of the touchdown base outside of the rooms was a common application across all cases. However, in case study 1, the touchdown base was designed to be shorter than the recommended size. As to the family support zone, in every case except for case study 1, there was a family support unit. Allowance for family support zone appeared in different forms. As part of the supporting elements, solely case study 1 had the handrails to enable the easy movement of patients from their bed to the en-suite. Furniture provision was not ignored in any of these cases. However, space allowed for that feature was changing in each case. For instance, whereas case study 3 had space not only for storage, locker and bed head outlets but also for over bed table. As part of clinical support zone, wash hand basin was observed a common feature across cases.

Compliance with the proportion of single rooms design in the hospital was actualized with 50% in all case studies. The greatest proportion of single room provision was within the case study 2 with 100%.

Good therapeutic environments were not achieved in all cases. Views from and to the bed were not provided in all cases. Better solutions than vision panel, which was stipulated in the standards, have been adapted in most of the cases. Only in the green ward rooms of case study 2 poor visualization was observed. By means of visual contact, provision of windows to able to contact with staff was frequently adapted in the cases. Self-control technologies for patients were only considered in case study 1. Artwork was not addressed in all cases but only in case study 1 and 3. Good social space design was undertaken only in the specific corridor of case study 2. Least concern was given to the patients’ control over their environment by mostly providing only call button.

5. DISCUSSION AND CONCLUSION

5.1. INTRODUCTION

The research aim was addressed by dwelling on the research questions and summarizing the findings obtained from chapter five and two. Discussions were made based on the findings from case studies and literature review. Comparisons of space design applications were linked to the literature review. Following that, implications for both theory and practice were revealed. Lastly, limitations for this study were indicated, and recommendations were made by highlighting the possible future research areas pertaining to this subject.

5.2. REFLECTION ON RESEARCH QUESTIONS

Even though the objectives of this study were not clearly mentioned, the answers for the research questions were considered to be sufficient to meet the aim of this review. The aim of this study was to investigate space design practices in publicly funded hospital projects and elicit the similarities and differences from proposed recommendations in research. This would contribute to existing literature providing practical evidence for space design implementations in hospital projects.

5.2.1. QUESTION 1: TO DEFINE SPACE STANDARDS BEING USED

Available standards and guidance along with policies have been noted in the literature review. Chapter two reviewed the interpretations of the standards' application due to the various perspectives of stakeholders (Mahadkar et al., 2010) and different types of standards' intervention to various phases of the project and their resultant impact on space design (Wanigarathna et al., 2016). However, standards were mostly accepted as benchmark or reference.

Questioning the types of space standards used in case studies provided a comparable platform. If there were different standards taken into consideration, comparison of space design implementations would not be consistent. A similar approach was observed as to the referred standards and guidance.

5.2.2. QUESTION 2: TO INVESTIGATE ROOM SPACE CONSTRAINTS

Appropriate layout and space needed for meeting the requirements stemming from policies were discussed in literature. Even though there is no empirical evidence or mutual agreement for which layout to be used, there is a strong emphasis on the compliance with the space dimensions (Reiling et al.,2006).

Findings indicate that practices of space dimensions such as bed space, en-suite space, door size and window size pursued the stipulated standards with only minor alterations. Therefore, there is no inconsistency between theory and practice.

5.2.3. QUESTION 3: TO INVESTIGATE ROOM SPACE ELEMENTS

The investigation into the inclusion of space elements was made by looking at the layouts of each case study. Whereas literature was highlighting the link between elements and their contribution to the aimed policy objectives such as patient-centeredness and patient safety, implementations were not differentiated much among cases. The issues with non-compliances were based on whether space elements such as family area, care area and workstations were deployed.

5.2.4. QUESTION 4: TO INVESTIGATE THE PROPORTION OF SINGLE ROOMS

Discussions on the benefits of compliance with single room proportion has been approached in chapter two. Findings from case studies were not showing otherwise and evidence generated was in line with literature findings.

5.2.5. QUESTION 5: TO INVESTIGATE THE THERAPEUTICAL ENVIRONMENT

Difficulty in measuring the overall effect, patient's views on the implementations, lack of benchmark around this subject were dwelt on in the literature review. On the other hand, finding matching patterns from case studies were challenging since there was not much information available regarding the patient's views. Moreover, to reveal such information, primary data may be needed. Therefore, the information obtained was limited to judge whether patient safety and patient centeredness were fully embraced.

5.3. IMPLICATIONS FOR THEORY

In this study the space standards, especially HBN-04, have been interpreted in various ways. However, approaches such as increasing the proportion of single rooms remained the same in each case study. Growth in single room ratio within the hospital is thought to be leading to less patient falls and infections, improved privacy and sleep. Precedence of having single rooms over multibays were confirmed by the studies of Lawson and Phiri (2004). Increased privacy issues were what single rooms were preferred for (Phiri, 2004). Regardless, in some studies, by investigating patients' preferences, multiple rooms were promoted and single rooms were opposed (Lawson and Phiri, 2003). Nevertheless, due to policy pressures, single room design in buildings which was formerly covering 10% to 13% is gradually rising (Phiri, 2004).

Another application observed in all cases was the provision of a touchdown base for each single room to get services closer to the patient, this was found to increase the patient-centeredness. Zborowsky et al. (2010) confirmed that approach by dealing with the placement of workstations. Apart from that, considering family support zones in the single rooms can be accepted as a common application. Its benefits to the reduction of patient fall, enhancement of patient safety along with the contribution to the patient-centeredness by providing social interaction were recognized by Ulrich et al. (2008) and Chaudhury et al. (2005). On the other hand, differences in the internal adjustment of the room were observed. Same-handed room types were promoted through studies by highlighting its benefits to visibility, patient safety and staff efficiencies (Cahnman, 2006). Based on the findings from case studies, outboard rooms contributed a greater allowance for outside viewing, inboard rooms offered a greater allowance for patient visibility and in-between type rooms provided a balanced visual area for outside and corridor with the disadvantage of prolonging the corridor length. Phiri (2004)'s study confirmed that by analysing different single room types.

The provision of windows and vision panels for patients to see both corridors and outside view were implemented in most of the cases. The need of a better therapeutic environment required these applications. Andrade et al. (2012) presented the patients' preferences in single rooms which were matching with this common application. However, not all the rooms were proposing a beautiful landscape view and natural light entrance even though their benefits were dwelt on by many researchers. When the cases were analysed, it seems that social interaction spaces, artwork and patients' control over the lighting, curtains, and music were not provided in all the cases. This can be interpreted as a different pattern and shortcomings of such applications were considered as deprivation of homely environments and reduction of patient satisfaction (Alalouch et al., 2016). Location of bed head services, which can be reached by patients easily in these cases, gave the control to the patients for them to communicate with staff. This was seen as a significant achievement for the design of therapeutic environments. Thus, patients would feel more comfortable and their privacy would not be disregarded. Study of control and integration linking to privacy verified above-mentioned statements (Alalouch et al., 2016).

Overall, there is a tendency to apply the standards and guidance. Consistency was observed as to the compliance of space allocated for the single room with the figures that were stipulated in the standards. The proportion of single rooms in a hospital was also not breached within the context of this study. Divisions in the single rooms and furniture needed have not shown any change as well and were in line with the requirements. However, the design of patients' control has underperformed when compared to the high-tech applications such as digital viewing screens, remote control of curtains and windows by the patients, which were promoted in the literature review. Staff's help was needed for many activities in each case. Furthermore, lack of innovative solution implementation in observing patients were indicators for poor practice in the patient-centeredness. Even though patient privacy was guaranteed on close to the highest degree, patient-centeredness and patient safety can be enhanced further for these cases. Since the decision making in the design of such rooms requires choosing one policy over another sometimes, improved application of patient-centeredness, patient safety, and privacy can be varied across the projects.

5.4. IMPLICATIONS FOR PRACTICE

The investigation into the space standards practice in actual projects confirmed that in publicly funded hospital projects, there are shortcomings in the implementation of policies and/or conflicts during the decision-making process. Measures taken in the single rooms of hospitals demonstrated that there is a lack of understanding in therapeutic environments, consequently patient-centeredness. Also, elements which were not considered as part of single room design, such as handrails and poor visibility of patients, are proof of neglected patient safety. However, prescriptive standards such as floor areas and bed areas were applied with minor alterations in practice. Lack of incentivization is seen to be the reason for not embracing the innovation and high technology equipment to meet and surpass the aims of standards and guidance.

Among the practices, patient safety can be tackled by choosing the same-handed room layout. Prominent property of same handed room, which is increasing patient safety, made that popular among other applications. Furthermore, applications regarding the adjustment of bed and en-suite were showing similarity by designing them closer to decrease patient falls. Prioritization can be given to the adjustment of the bed according to the en-suite location.

Patient-centeredness could not measure up to the required standards both in terms of the provision of homely environments and sharing the control with patient. Implementations remained incapable due to poor uptake of technology and innovations. Specialized design services within the room design can be left to the specialized designers to decide. Therefore, the emergence of various design implementations can be reduced.

In conclusion, standardization of some elements in single rooms such as bed head services and standardization of room layout such as same-handed room layout can be used in practice more often. While these standardization approaches integrating with lean practice can be of benefit to the project participants, it can also prevent stakeholders from having different decisions regarding single room designs.

5.5. LIMITATIONS AND AREAS FOR FUTURE RESEARCH

The major limitation of this study was that the case studies design briefs could not be reached and the data was collected from different stages of the project. Lack of design brief documentation has hindered the understanding of the root cause of changes from standard and/or comment on the application of space standards.

Other limitations and areas for research were presented below in table 5.1.

Table 5.1 – Limitations and Future Research

No	Limitations	Future Research
1	Secondary data resources only	Case study approach using primary data, focusing on users' and stakeholders' choices
2	Chosen case studies were around London predominantly and were addressing the wide range of projects from £1-£125 million.	Range of cases can be broadened and cases referring various local areas can be chosen. According to total project amount, categorization and behaviours on space design can be observed in future research.
3	Single rooms for mentally ill patients, patient who has dementia and for other specialized health services, were not dealt within this study.	Design criteria and space elements for other specialized services can be investigated for different kinds of single inpatient rooms
4	Stakeholder and public participation details could not be found in the case studies. Therefore, their effects on the design changes and evolution of the conceptual design could not be observed.	Space adjustments requested from stakeholders and public can be researched to find out the effects on decision-making process.

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A. APPENDIX – 1

SCHEDULES OF ACCOMMODATION –

BRIGHTON AND SUSSEX UNIVERSITY HOSPITALS

ACCOMMODATION REPORT

BDP.

Client:	Brighton and Sussex University Hospitals NHS Trust
Project:	3Ts
Site	RSCH
Dept:	MEDICAL WARDS 79 BED
BDP Document Reference	BDP-AR-SW-SH-1153
BDP Document Title	ACCOMMODATION REPORT
BDP Revision No.	F02
BDP Document issue date	04.07.11
BDP Drawing reference	BDP-AR-ST1-A00-GA-L08-0001 F08
Reason for issue	REPORTING ROOM NAMES / AREAS
Issued By	Louisa Hill

	= area more than 10% greater than Target
	= area between 5 & 10% greater than Target
	= area within 5% +/- of Target
	= area between 5 & 10% less than Target
	= area more than 10% less than Target
	Missing room
	Removed Room
	Additional Room

Group	Sub Group	Room Number	Room Name	Signed off Drawing Area	Designed Area	Variation	Variation as percentage	Notes
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-03	Ensuite 4	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-02	Ensuite 18 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-16	Ensuite 17	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-15	Ensuite 16	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-14	Ensuite 15	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-13	Ensuite 14	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-12	Ensuite 13	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-11	Ensuite 12	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-10	Ensuite 11	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-09	Ensuite 10	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-08	Ensuite 9	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-07	Ensuite 8	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-06	Ensuite 7	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-40	Ensuite 50	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-04	Ensuite 5	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-05	Ensuite 21 - B	8.6	8.2	-0.4	95.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-02	Ensuite 3	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-01	Ensuite 2	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-01	Ensuite 1 - B	7.6	7.6	0.0	99.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-45	Single Bed 55	23.7	22.1	-1.6	93.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-44	Single Bed 54	18.9	18.1	-0.8	95.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-43	Single Bed 53	18.7	17.8	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-42	Single Bed 52	18.9	18.1	-0.8	95.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-41	Single Bed 51	18.7	17.8	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-40	Single Bed 50	18.9	18.1	-0.8	95.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-39	Single Bed 49	18.7	17.8	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-38	Single Bed 48	18.9	18.1	-0.8	95.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-37	Single Bed 47	18.7	17.8	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-36	Single Bed 46	18.9	18.1	-0.8	95.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-05	Ensuite 6	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-28	Ensuite 34	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S051-02	Meeting - Group 2	16.2	16.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-38	Ensuite 48	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-37	Ensuite 47	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-36	Ensuite 46	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-35	Ensuite 45	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-34	Ensuite 44	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-33	Ensuite 43	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-32	Ensuite 42	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-31	Ensuite 41	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-30	Ensuite 40	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-29	Ensuite 39	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-10	Ensuite 38 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-09	Ensuite 37 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-03	Ensuite 19 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-22	Ensuite 28	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-33	Single Bed 43	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-06	Ensuite 22 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-17	Ensuite 23	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-18	Ensuite 24	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-19	Ensuite 25	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-08	Ensuite 36 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-21	Ensuite 27	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-07	Ensuite 35 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-23	Ensuite 29	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-24	Ensuite 30	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-25	Ensuite 31	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-26	Ensuite 32	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-27	Ensuite 33	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S066-04	Ensuite 20 - B	7.1	7.1	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-20	Ensuite 26	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S014-02	WC Ind W 3	5.5	5.5	0.0	100.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-35	Single Bed 45	18.7	17.9	-0.8	95.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-10	Single Bed 11	19.1	18.4	-0.7	96.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-09	Single Bed 10	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-08	Single Bed 9	18.7	17.8	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-07	Single Bed 8	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-06	Single Bed 7	18.7	17.8	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-05	Single Bed 6	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-04	Single Bed 5	18.7	17.8	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-03	Single Bed 4	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-02	Single Bed 3	18.7	17.8	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-01	Single Bed 2	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-01	Single Bed 1 - B	18.9	18.5	-0.4	98.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-L144-03	Waiting 3	8.6	8.2	-0.4	95.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-12	Single Bed 13	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S078-01	Clnr Cpd 1	7.9	7.9	0.0	100.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S051-03	Meeting - Group 3	15.4	15.4	0.0	99.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S148-01	Staff Rest	38	30.5	-7.5	80.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S155-01	WC Amb St 1	3.3	3.2	-0.1	96.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S026-01	WC Ind W St 1	4.5	4.2	-0.3	92.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S031-01	St Lockers 1	2	2.0	0.0	101.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-L144-02	Waiting 2	9.3	8.5	-0.8	91.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S031-03	St Lockers 3	1.2	1.2	0.0	96.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-L144-01	Waiting 1	8.9	8.3	-0.6	93.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S078-02	Clnr Cpd 2	6.4	6.4	0.0	100.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S078-03	Clnr Cpd 3	7	6.6	-0.4	94.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S069-01	Disposal Hold 1	15	15.1	0.1	100.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S014-01	WC Ind W 1	5.5	5.5	0.0	100.0%	

Group	Sub Group	Room Number	Room Name	Signed off Drawing Area	Designed Area	Variation	Variation as percentage	Notes
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S014-03	WC Ind W 2	5.4	5.5	0.1	101.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-13	Single Bed 14	18.6	17.7	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S031-02	St Lockers 2	2	2.0	0.0	101.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-22	Single Bed 28	17.8	17.0	-0.8	95.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-41	Ensuite 51	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-32	Single Bed 42	18.7	17.8	-0.9	95.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-31	Single Bed 41	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-30	Single Bed 40	18.7	17.8	-0.9	95.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-29	Single Bed 39	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-10	Single Bed 38 - B	19.3	18.9	-0.4	98.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-09	Single Bed 37 - B	25.3	25.4	0.1	100.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-08	Single Bed 36 - B	25.4	25.5	0.1	100.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-07	Single Bed 35 - B	19.1	18.7	-0.4	98.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-28	Single Bed 34	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-27	Single Bed 33	18.6	17.8	-0.8	95.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-26	Single Bed 32	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-25	Single Bed 31	18.6	17.8	-0.8	95.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-11	Single Bed 12	17.8	17.1	-0.7	96.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-06	Single Bed 22 - B	19.2	18.9	-0.3	98.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-14	Single Bed 15	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-15	Single Bed 16	18.6	17.7	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-16	Single Bed 17	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-02	Single Bed 18 - B	19.2	18.9	-0.3	98.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-03	Single Bed 19 - B	24.3	23.8	-0.5	97.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-24	Single Bed 30	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-05	Single Bed 21 - B	25.4	25.3	-0.1	99.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-23	Single Bed 29	18.6	18.0	-0.6	96.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-17	Single Bed 23	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-18	Single Bed 24	18.6	17.7	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-19	Single Bed 25	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-20	Single Bed 26	18.6	17.7	-0.9	95.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-21	Single Bed 27	19	18.1	-0.9	95.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S036-34	Single Bed 44	18	17.7	-0.3	98.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S157-04	Single Bed 20 - B	19.3	19.2	-0.1	99.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-08	Linen Bay 8	1.8	1.8	0.0	97.7%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-02	Corridor 2	0	74.2	74.2	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-01	Corridor 1	0	43.3	43.3	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S155-02	WC Amb St 5	2.8	2.8	0.0	98.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S023-03	SW 3	2.3	2.3	0.0	101.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S023-02	SW 2	2.2	2.3	0.1	106.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S023-01	SW 1	2.5	2.6	0.1	103.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S069-02	Disposal Hold 2	15	15.0	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S051-01	Meeting - Group 1	18.8	18.8	0.0	99.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S089-03	1P Office - Snr Nurse 3	12.8	12.8	0.0	99.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S089-02	1P Office - Snr Nurse 2	12.1	12.1	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S089-01	1P Office - Snr Nurse 1	12	11.6	-0.4	97.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S117-01	3P Hotdesk - Admin	16	16.0	0.0	100.1%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-19	Corridor 19	0	74.1	74.1	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-09	Linen Bay 9	2	2.0	0.0	101.2%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-05	Corridor 5	0	66.2	66.2	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-07	Linen Bay 7	2	1.6	-0.4	82.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-06	Linen Bay 6	1.2	1.2	0.0	101.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-05	Linen Bay 5	1.8	1.7	-0.1	94.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-04	Linen Bay 4	2	1.6	-0.4	82.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-03	Linen Bay 3	2.2	2.2	0.0	100.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-02	Linen Bay 2	1.8	1.7	-0.1	92.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S054-01	Linen Bay 1	2	1.6	-0.4	82.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S082-03	Store - Clean 3	15.6	15.3	-0.3	97.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S082-02	Store - Clean 2	16.3	16.1	-0.2	98.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S082-01	Store - Clean 1	16	16.0	0.0	99.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-39	Ensuite 49	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S065-02	Store - Equip 2	8.3	8.3	0.0	99.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-U487-01	2P Hotdesk - Clinical	33.1	33.1	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-03	4b Bay WC 3	2	2.5	0.5	127.4%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 18	0	6.9	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 17	0	68.9	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 16	0	91.7	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 15	0	15.1	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-21	Corridor 21	0	38.0	38.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-20	Corridor 20	0	43.3	43.3	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 14	0	24.2	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 13	0	31.8	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 12	0	74.3	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 11	0	43.1	0.0	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-10	Corridor 10	0	38.1	0.0	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-06	4b Bay WC 6	2.5	2.5	0.0	101.9%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-03	Corridor 3	0	38.0	38.0	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-04	4b Bay WC 4	2.5	2.5	0.0	101.9%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-04	Corridor 4	0	7.0	7.0	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-02	4b Bay WC 2	2.2	2.6	0.4	118.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-01	4b Bay WC 1	2.5	2.5	0.0	101.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-06	4b Bay Ensuite 6	8.2	8.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-05	4b Bay Ensuite 5	8.2	8.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-04	4b Bay Ensuite 4	8.2	8.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-03	4b Bay Ensuite 3	8.2	8.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-02	4b Bay Ensuite 2	8.2	8.2	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062c-01	4b Bay Ensuite 1	8.1	8.2	0.1	101.1%	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-09	Corridor 9	0	6.9	6.9	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-08	Corridor 8	0	69.4	69.4	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-07	Corridor 7	0	57.2	57.2	#DIV/0!	
Medical Ward 79 bed	Circulation	ST1-L08-M80-114-TBC-06	Corridor 6	0	77.5	77.5	#DIV/0!	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S065-01	Store - Equip 1	11.9	11.4	-0.5	95.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062b-05	4b Bay WC 5	2.5	2.5	0.0	101.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-01	Staff Base - T'down 1	3.1	2.2	-0.9	71.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S065-03	Store - Equip 3	10.2	10.2	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S034-03	Sitting/ Dining Rm 3	16.6	18.6	2.0	112.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S034-02	Sitting/ Dining Rm 2	16.2	18.2	2.0	112.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S034-01	Sitting/ Dining Rm 1	16.2	18.2	2.0	112.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-12	Staff Base - T'down 12	3	3.0	0.0	98.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-11	Staff Base - T'down 11	4.2	4.2	0.0	100.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-10	Staff Base - T'down 10	3.1	2.1	-1.0	69.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-09	Staff Base - T'down 9	3.1	2.4	-0.7	77.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-08	Staff Base - T'down 8	1.3	1.0	-0.3	79.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-07	Staff Base - T'down 7	3.5	3.5	0.0	100.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-06	Staff Base - T'down 6	3.1	2.2	-0.9	71.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-05	Staff Base - T'down 5	3.1	2.2	-0.9	69.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-04	Staff Base - T'down 4	4	4.0	0.0	101.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S022-02	Treatment Rm 2	16.2	16.2	0.0	100.2%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-04	4b Bay 4	61.2	61.3	0.1	100.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-42	Ensuite 52	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-43	Ensuite 53	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-44	Ensuite 54	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S067-45	Ensuite 55	4.7	5.0	0.3	106.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-01	4b Bay 1	61.1	61.3	0.2	100.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-03	Staff Base - T'down 3	3.1	3.1	0.0	100.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-03	4b Bay 3	59.9	61.3	1.4	102.3%	

Group	Sub Group	Room Number	Room Name	Signed off Drawing Area	Designed Area	Variation	Variation as percentage	Notes
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S032-02	Staff Base - T'down 2	3.1	2.5	-0.6	79.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-05	4b Bay 5	59.2	61.3	2.1	103.5%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-06	4b Bay 6	61.2	61.3	0.1	100.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S033-01	Staff Base 1	8.4	7.5	-0.9	89.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S033-02	Staff Base 2	8.4	7.5	-0.9	89.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S033-03	Staff Base 3	8.4	7.5	-0.9	89.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S022-03	Treatment Rm 3	15.5	15.1	-0.4	97.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S062a-02	4b Bay 2	61.3	61.3	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S020-01	Parking Bay 2	6	4.8	-1.2	80.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S038-02	Resus Trolley 2	1.8	1.6	-0.2	86.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S070-01	Dirty Utility 1	9.8	9.4	-0.4	95.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S070-02	Dirty Utility 2	9.8	9.5	-0.3	97.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S070-03	Dirty Utility 3	9.8	9.9	0.1	101.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S076-01	Comm Wash / Equip 1	10.1	9.1	-1.0	90.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S022-01	Treatment Rm 1	16	16.0	0.0	100.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S076-03	Comm Wash / Equip 3	10.1	9.4	-0.7	93.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S081-03	Clean Utility/ Prep Rm 3	20.1	22.6	2.5	112.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S020-02	Parking Bay 1	5.7	5.6	-0.1	97.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S059-01	Bay Hoist 1	5	5.0	0.0	99.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-U426-01	Parking Bay - Xray/ Hoist	8.2	7.8	-0.4	95.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S059-02	Bay Hoist 3	3.9	3.9	0.0	101.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S061-01	Store - Equip Med 1	13.6	13.0	-0.6	95.9%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S061-02	Store - Equip Med 2	19	18.6	-0.4	97.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S076-02	Comm Wash / Equip 2	10.1	9.1	-1.0	90.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S136-01	Kitchen	29.9	37.8	7.9	126.3%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S055-01	Interview Rm 1	8.7	7.6	-1.1	87.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S055-02	Interview Rm 2	8.7	7.6	-1.1	87.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S055-03	Interview Rm 3	8.7	7.9	-0.8	91.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S038-01	Resus Trolley 1	1.6	1.8	0.2	109.8%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-U144-01	Rehab	44.9	44.9	0.0	100.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S038-03	Resus Trolley 3	1.8	1.8	0.0	99.6%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S086-01	Bev Bay 1	4	4.4	0.4	110.1%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S086-02	Bev Bay 2	4	4.3	0.3	108.0%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S086-03	Bev Bay 3	4.1	4.5	0.4	109.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S081-01	Clean Utility/ Prep Rm 1	19.6	23.1	3.5	117.7%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S081-02	Clean Utility/ Prep Rm 2	19.6	22.8	3.2	116.4%	
Medical Ward 79 bed	MW 79 bed	ST1-L08-M80-115-S061-03	Store - Equip Med 3	14.2	13.8	-0.4	97.1%	
Changing Facilities	Stage 1 Level 9	ST1-L08-MCH-116-S155-02	WC Amb St 2	2.8	2.8	0.0	98.6%	
Changing Facilities	Stage 1 Level 9	ST1-L08-MCH-116-U427-01	St Lockers	13.1	12.7	-0.4	96.8%	

Net Total	2652.0	3502.9	850.9	132.1%	
Circulation Allowance	49.4%	14.3%		28.8%	Note Corridors included as Rm
Circulation Incl Planning Allowance Area	1311.3	499.7	-811.6	38.1%	
Gross Total	3963.3	4002.6	39.3	101.0%	

ACCOMMODATION REPORT

BDP.

Client:	Brighton and Sussex University Hospitals NHS Trust
Project:	3Ts
Site	RSCH
Dept:	MEDICAL WARD (28 BED + MDU)
BDP Document Reference	BDP-AR-SW-SH-1154
BDP Document Title	ACCOMMODATION REPORT
BDP Revision No.	F02
BDP Document issue date	04.07.11
BDP Drawing reference	BDP-AR-ST1-A00-GA-L09-0001 F08
Reason for issue	REPORTING ROOM NAMES / AREAS
Issued By	Louisa Hill

(dark green)	= area more than 10% greater than Target
(light green)	= area between 5 & 10% greater than Target
(white)	= area within 5% +/- of Target
(light orange)	= area between 5 & 10% less than Target
(orange)	= area more than 10% less than Target
(yellow)	Missing room
(grey)	Removed Room
(light blue)	Additional Room

Group	Sub Group	Room Number	Room Name	Signed off Drawing Area	Designed Area	Variation	Variation as percentage	Notes
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-01	Corridor 1	0	95.6	-0.9	#DIV/0!	
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-02	Corridor 2	0	41.4	-0.8	#DIV/0!	
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-03	Corridor 3	0	38.0	0.0	#DIV/0!	
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-04	Corridor 4	0	57.6	0.0	#DIV/0!	
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-05	Corridor 5	0	7.4	-0.6	#DIV/0!	
MDU & Ward Support	Circulation	ST1-L09-MDU-122-TBC-06	Corridor 6	0	104.0	-0.9	#DIV/0!	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-LR145-01	Medical Day - Chairs M	62.4	62.5	0.0	100.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-LR145-02	Medical Day - Chairs F	60.4	62.5	-0.8	103.5%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S008-01	1P Office - MDU	10.5	10.3	-0.3	98.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S014-01	WC Ind W	5.4	5.5	-0.3	101.8%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S014-02	Ensuite 1	5.9	5.5	0.0	93.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S014-03	Ensuite 2	5.6	5.5	0.0	98.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S016-01	Waiting	8.4	8.4	-0.1	100.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S020-01	Parking Bay	3.9	4.4	0.0	112.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S022-01	Treatment Rm	15.7	17.6	-0.4	111.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S023-01	SW 1	2.6	2.6	0.3	99.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-15	Ensuite 19	4.7	5.0	-0.9	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S031-01	St Lockers	1.4	1.4	-0.8	101.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S032-01	Staff Base - T'down 1	3.3	2.5	-0.8	74.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S026-01	WC Ind W St	4.1	4.1	0.0	100.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S061-01	Store - Equip Med	14.5	14.2	0.1	98.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S032-03	Staff Base - T'down 3	4.3	4.5	0.0	105.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S058-01	Parking - Xray	4.1	4.1	2.0	100.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S034-01	Sitting / Dining Rm	20.7	19.6	0.0	94.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-01	Single Bed 1	23.6	22.7	0.0	96.1%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-02	Single Bed 2	18.7	17.8	-0.5	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-03	Single Bed 3	19	18.1	0.0	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-04	Single Bed 4	18.7	17.8	1.6	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-05	Single Bed 5	19	18.1	0.0	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-06	Single Bed 6	18.7	17.8	-0.4	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-07	Single Bed 7	19	18.1	0.3	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-08	Single Bed 8	18.7	17.9	0.0	95.7%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-09	Single Bed 9	17.8	17.1	0.0	95.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-10	Single Bed 10	19	18.1	0.1	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-11	Single Bed 11	18.6	17.7	0.0	95.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-12	Single Bed 12	19	18.1	-0.6	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-13	Single Bed 13	18.6	17.7	0.0	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-14	Single Bed 14	19	18.1	2.0	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-15	Single Bed 19	19	18.1	0.0	95.2%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S036-16	Single Bed 20	18.7	17.9	0.0	96.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S038-01	Resus Trolley 1	1.9	0.6	-0.8	31.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S038-02	Resus Trolley 2	1.6	1.9	-1.1	117.1%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S054-01	Linen Bay 2	1.6	1.5	0.0	95.8%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S054-02	Linen Bay 1	2.1	2.0	0.3	96.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S054-03	Linen Bay 3	1.7	1.7	-0.9	99.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S055-01	Interview Rm	8.2	8.2	0.0	99.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S089-01	1P Office - Snr Nurse	10.8	10.8	0.1	99.8%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S059-01	Bay Hoist	4.1	4.1	-0.3	100.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S032-04	Staff Base - T'down 4	3	3.0	-0.9	100.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062a-01	4b Bay 1	60.5	60.5	-0.4	100.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062a-02	4b Bay 2	60.3	60.3	0.5	99.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062b-01	4b Bay WC 2	2.5	2.5	0.4	101.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062b-02	4b Bay WC 1	2.5	2.5	-0.4	101.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062c-01	4b Bay Ensuite 1	7.8	7.6	0.0	97.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S062c-02	4b Bay Ensuite 2	7.7	7.3	-0.2	94.5%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S065-01	Store - Equip	9.8	9.7	-0.9	98.9%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S066-01	Ensuite 15 - B	7.6	7.6	0.3	99.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S066-02	Ensuite 16 - B	7.6	7.6	0.0	99.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S066-03	Ensuite 17 - B	7.6	7.6	-0.2	99.7%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S066-04	Ensuite 18 - B	8.5	8.5	0.4	100.5%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-01	Ensuite 1	5	5.0	-0.9	99.1%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-02	Ensuite 2	4.7	5.0	0.2	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-03	Ensuite 3	4.7	5.0	-0.9	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-04	Ensuite 4	4.7	5.0	-0.1	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-05	Ensuite 5	4.7	5.0	0.1	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-06	Ensuite 6	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-07	Ensuite 7	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-08	Ensuite 8	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-09	Ensuite 9	4.7	5.0	-0.3	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-10	Ensuite 10	4.7	5.0	-0.4	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-11	Ensuite 11	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-12	Ensuite 12	4.7	5.0	-0.9	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-13	Ensuite 13	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-14	Ensuite 14	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S124-01	Meeting - Group	16	16.0	0.3	99.8%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S067-16	Ensuite 20	4.7	5.0	0.0	106.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S069-01	Disposal Hold	13.4	13.3	0.0	99.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S070-01	Dirty Utility	9.1	8.8	-0.5	96.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S076-01	Comm Wash / Equip	9.4	9.4	-0.1	99.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S078-01	Clnr Cpd	7.7	7.7	-0.4	99.7%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S081-01	Clean Utility / Prep Rm	19.6	22.7	-0.8	115.7%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S082-01	Store - Clean	15	14.7	0.3	97.7%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S086-01	Bev Bay 1	4.3	4.3	0.0	101.0%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S086-02	Bev Bay 2	4.2	4.0	2.5	95.5%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S033-01	Staff Base	7.5	7.4	-0.9	98.3%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S032-02	Staff Base - T'down 2	3.3	2.8	0.0	86.1%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S157-01	Single Bed 15 - B	19.1	18.7	0.0	98.1%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S157-02	Single Bed 16 - B	18.4	18.2	-0.2	98.8%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S157-03	Single Bed 17 - B	17.6	17.3	0.3	98.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-S157-04	Single Bed 18 - B	24.3	23.9	0.0	98.4%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-U143-01	Rehab	13.7	13.7	0.0	99.6%	
MDU & Ward Support	Medical Ward 5 (MDU)	ST1-L09-MDU-123-U431-01	Store - MDU	4.1	3.8	0.0	93.1%	

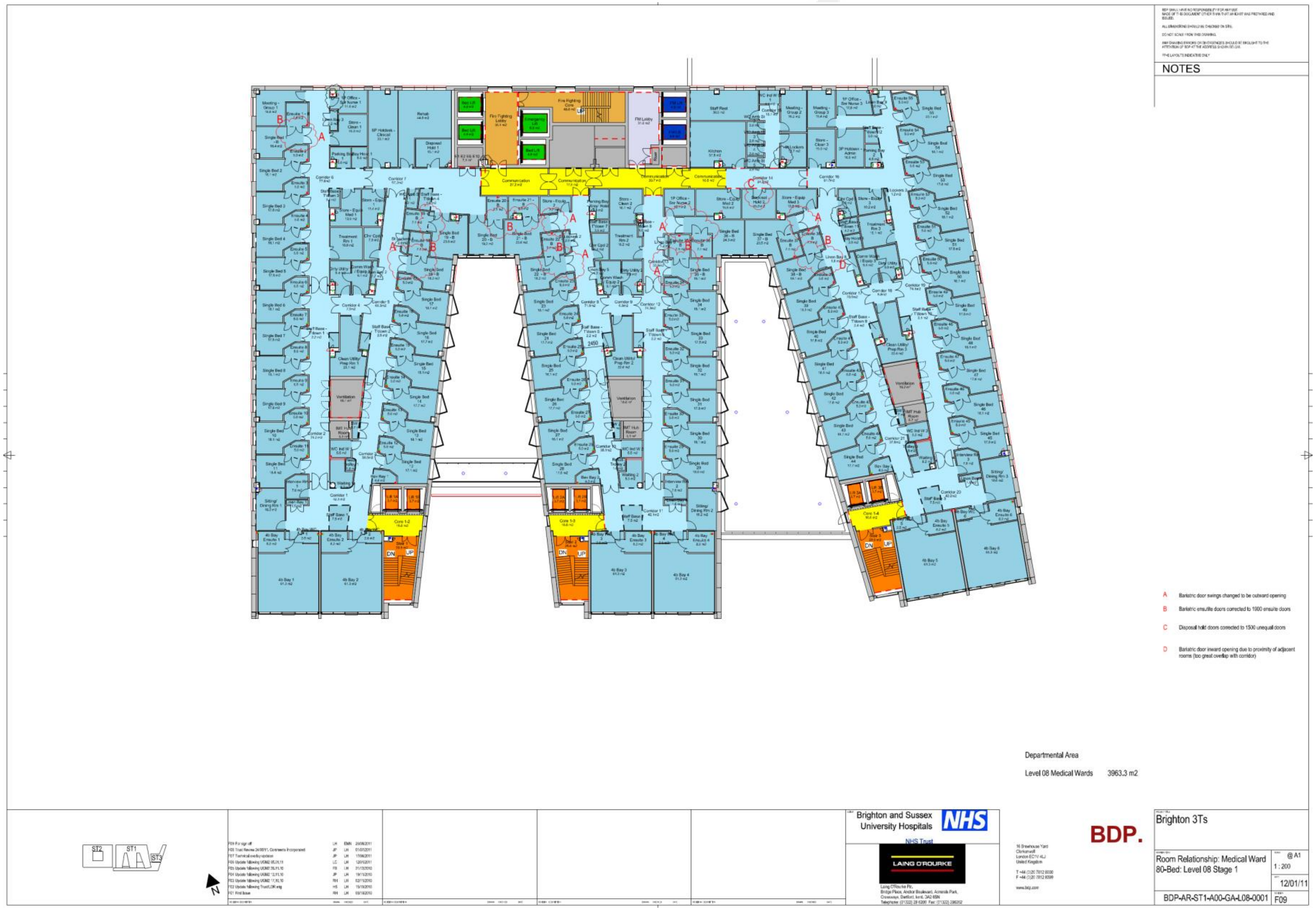
Group	Sub Group	Room Number	Room Name	Signed off Drawing Area	Designed Area	Variation	Variation as percentage	Notes
MDU & Ward Support	Staff Support	ST1-L09-MDU-124-S009-01	6P Office	36.8	34.4	-0.3	93.6%	
MDU & Ward Support	Staff Support	ST1-L09-MDU-124-S023-01	SW 2	2	2.0	0.0	100.6%	
MDU & Ward Support	Staff Support	ST1-L09-MDU-124-S029-01	Staff Rest	15.4	17.1	-0.5	110.8%	

Net Total	1092.1	1425.8	333.7	130.6%	
Circulation Allowance	44.7%	10.8%		24.2%	Note Corridors included as Rm
Circulation Incl Planning Allowance Area	487.8	154.1		31.6%	
Gross Total	1579.9	1579.9	0.0	100.0%	

B. APPENDIX – 2

FLOOR LAYOUT PLANS –

BRIGHTON AND SUSSEX UNIVERSITY HOSPITALS


NOTES
A Bariatric door swings changed to be outward opening
B Bariatric ensuite doors corrected to 1900 ensuite doors
C Disposal hold doors corrected to 1500 unequal doors
D Bariatric door inward opening due to proximity of adjacent rooms (too great overlap with corridor)
Departmental Area
Level 08 Medical Wards 3963.3 m2
Brighton and Sussex University Hospitals NHS Trust
LAING O'ROURKE
BDP.
Brighton 3Ts
Room Relationship: Medical Ward 80-Bed: Level 08 Stage 1
@A1
1 : 200
12/01/11
BDP-AR-ST1-A00-GA-L08-0001
F09