

# NHS CUI Design Guide Workstream

## Release 4 Introduction to Handover

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## PREFACE

### Documents replaced by this document

Document Title	Version
None	

### Documents to be read in conjunction with this document

Document Title	Version
Release 4 Handover Requirements Spreadsheet	1.0.0.0
Release 4 Introduction to Handover Summary ( <i>Presentation</i> )	1.0.0.0

In using this document, please be aware that the effect of recent Patient Safety Assessments (PSAs) executed for the NHS CUI programme have not yet been addressed in the guidance in this document. Any such effect the PSAs may have on the content and guidance contained herein, will be included in a subsequent version of this document.

**This document was prepared for NHS Connecting for Health which ceased to exist on 31 March 2013. It may contain references to organisations, projects and other initiatives which also no longer exist. If you have any questions relating to any such references, or to any other aspect of the content, please contact [cuistakeholder.mailbox@hscic.gov.uk](mailto:cuistakeholder.mailbox@hscic.gov.uk)**

# TABLE OF CONTENTS

<b>1</b>	<b><i>Executive Summary.....</i></b>	<b><i>1</i></b>
<b>2</b>	<b><i>Introduction to Handover.....</i></b>	<b><i>2</i></b>
2.1	Handover Definitions .....	2
2.2	Background.....	2
2.3	Types of Handover in Clinical Contexts.....	3
2.4	Users Involved in Handover .....	5
2.5	Stages of Handover .....	6
<b>3</b>	<b><i>NHS CUI Handover Project .....</i></b>	<b><i>8</i></b>
3.1	Scope.....	8
3.1.1	In Scope .....	8
3.1.2	Out of Scope.....	8
3.1.3	Discussion of Scope .....	8
3.2	Work Carried Out.....	9
3.2.1	Staff Members Involved.....	9
3.2.2	Research Activities .....	9
3.2.3	Project Outputs.....	9
3.3	General Principles and Assumptions for Handover.....	10
<b>4</b>	<b><i>Guidance on the Requirements Spreadsheet.....</i></b>	<b><i>11</i></b>
4.1	How the Requirements Spreadsheet is Organised .....	11
4.2	Terminology Used in the Requirement Spreadsheet .....	12
4.3	Categories and Category Sets .....	12
4.3.1	Introduction.....	12
4.3.2	Category Set: Generic or Specific (Colour = Blue) .....	13
4.3.3	Category Set: Handover Stage (Colour = Pink) .....	13
4.3.4	Category Set: Handover Aspect (Colour = Orange) .....	13
4.3.5	Datasets and Item Lists.....	14
<b>5</b>	<b><i>Next Steps for the NHS CUI Work on Handover .....</i></b>	<b><i>15</i></b>
<b>6</b>	<b><i>Document Information .....</i></b>	<b><i>17</i></b>
6.1	Terms and Abbreviations.....	17
6.2	Definitions .....	17
6.3	Nomenclature .....	17
6.4	References .....	18
<b>APPENDIX A</b>	<b><i>List of Site Visits.....</i></b>	<b><i>19</i></b>
<b>APPENDIX B</b>	<b><i>Example Handover Datasets Collected.....</i></b>	<b><i>20</i></b>

<b>APPENDIX C</b>	<b><i>Groups Researching Handover</i></b> .....	<b>23</b>
<b>APPENDIX D</b>	<b><i>Handover Literature References</i></b> .....	<b>24</b>

# 1 EXECUTIVE SUMMARY

This document is an introduction to the handover work carried out for the NHS Common User Interface (CUI) Design Guide Workstream, Release 4. It should be read in conjunction with the *NHS CUI Design Guide R4 Handover Requirements Spreadsheet {R1}* (referred to in this document as the Requirements Spreadsheet), which lists the user requirements generated during the NHS CUI Release 4 work on handover.

This document covers:

- A brief introduction to handover in a clinical setting
- An overview of the NHS CUI work that has been carried out to investigate handover and generate the user requirements
- Guidance on interpreting certain aspects of the Requirements Spreadsheet such as categories, colour coding and terminology used

## Note

This document does not provide an in-depth analysis of handover in a clinical context, a review of the literature and previous (non-NHS CUI) work done on handover, or a detailed explanation of each requirement and its rationale. See the literature references, the notes from the site visits, the artefacts gathered, and the Requirements Spreadsheet.

## 2 INTRODUCTION TO HANDOVER

### 2.1 Handover Definitions

In their 2004 guidelines on handover, produced in response to the impact of the European Working Time Directive (EWTD), the British Medical Association (BMA), the National Patient Safety Agency (NPSA) and the Junior Doctor's Committee defined handover in a clinical context as:

**“The transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis”**

(BMA Junior Doctors' Committee and NPSA in Safe Handover: Safe Patients, 2004)<sup>1</sup>

The NHS CUI work carried out on handover takes this statement as its starting definition of handover.

To further explain the purpose of handover, Lardner's (1996)<sup>2</sup> description of shift handover in relation to process control industries is useful:

**“The goal of shift handover is the accurate, reliable communication of task-relevant information across shift changes, thereby ensuring continuity of safe and effective working”**

(Lardner in Health and Safety Executive report, 1996)

Lardner's definition of shift handover also applies in a clinical context, and is broadly applicable to other types of clinical handover, not only shift handover, in as much as the main aim of clinical handover is to maintain continuity of care across some form of change in the system, be that a change in: location of patient, staff member caring for patient, or type of care being provided for the patient. Handover may have other aims or consequences, as described in section 2.2.

For the purposes of the NHS CUI programme, handover definition would include the patient group, and also the list of relevant tasks to facilitate a transfer of professional responsibility. It was considered that handover is not to include referrals. Though the distinction between handover and referral may be difficult to make, the rationale for not including it in NHS CUI handover work is that referrals should consist of an introduction to a patient's history and demographics followed by a note (which may be a task). It was assumed that a basic principle of the NHS CFH would have already been achieved, and patient's healthcare records are available to any clinician anywhere within the health service.

Section 3.1 details the scope of the handover project.

### 2.2 Background

Handover is a common part of workflow in many industries, and has been the subject of research in industries such as process control (for example, oil and gas industry), air traffic control and healthcare. Handover, in particular shift handover, has been recognised as a potential point of vulnerability for the 'system' (in the wider sense of the situation in hand) that the handover is involved with. In industries other than healthcare it has been found that adverse events are more

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<sup>1</sup> BMA, Junior Doctors' Committee and NPSA (2004). Safe handover: safe patients.  
<http://www.bma.org.uk/ap.nsf/Content/Handover>

<sup>2</sup> Lardner, R. (1996) Effective shift handover. Prepared for Health and Safety Executive Offshore Safety Division.  
<http://www.hse.gov.uk/research/otopdf/1996/oto96003.pdf>

likely to occur a short time after shift handover has occurred. Poor handover has been implicated as a contributing factor in several large scale disasters such as Piper Alpha (Lardner 1996).

Handover in a clinical context has often been thought of as a process that occurs in Secondary Care at nursing shift change, as nurses have traditionally worked a fixed shift system. As a result, nursing shift handover has received the most study out of all types of clinical handover, and has been to some extent standardised. However, with the advent of the European Working Time Directive (EWTD) in 2003, junior doctors now have an explicit need for shift handover, and the desire to investigate and support handover has increased. Recently, the NPSA has stated that medical shift handover is “an area ripe with potential risks to patient safety”<sup>3</sup>. The BMA has also called for more IT support of handover to minimise patient safety risks. It is envisaged that electronically supported handover will not only improve patient safety and accuracy of information transferred, but also produce information that will be useful for resource management, commissioning, clinical and process auditing, and staff diary management.

In the experience of those working on the NHS CUI, Information Technology (IT) support for handovers of any kind in a clinical context is rare, isolated, experimental and not integrated with a full electronic clinical management system. In addition, it is not known to what extent the clinical management systems that are planned for implementation in the NHS, support handover.

As discussed in section 2.1, handover has been identified as performing other functions aside from transfer of information. The presentation and discussion of information relating to the items being handed over can mean that handover is educational for those taking part. Some clinical handovers (such as those involving senior doctors who are supervising junior doctors) make this function explicit. Wears et al (2003)<sup>4</sup> has also identified handover as a point at which errors in a system may be spotted and corrected, as staff ‘take stock’ of the situation. Wilson et al (2005)<sup>5</sup> observed that the period of time around handover was often the only time when staff were fully aware of everything that was going on in their area of responsibility (in that case a paediatric ward).

By summarising current information in the presence of other staff, handover can also be a point at which key decisions are made, and in a clinical context, where a patient’s plan is formulated. Handover has also been seen to have a social function, particularly where team members handover together.

Due to the time and resource limitations on this round of handover investigation, the NHS CUI work has focused primarily on how the information transfer aspect of handover could be supported by IT.

## 2.3 Types of Handover in Clinical Contexts

Table 1 below shows various examples of handover types.

### Note:

It is outside the scope of this document to provide an in-depth analysis of the different types of handover that occur in clinical contexts.

<sup>3</sup> BMA, Junior Doctors’ Committee and NPSA (2004). Safe handover: safe patients.  
<http://www.bma.org.uk/ap.nsf/Content/Handover>

<sup>4</sup> Wears RL, Perry SJ, Shapiro M, Beach C, Croskerry P. and Behara R (2003). Shift Changes Among Emergency Physicians: Best of Times, Worst of Times. In Proceedings of the Human Factors and Ergonomics Society 47<sup>th</sup> Annual Meeting, Human Factors and Ergonomics Society, 1420-1423.

<sup>5</sup> Wilson S, Galliers J, and Fone J (2005). Medical Handover: A Study and Implications for Information Technology. Healthcare Systems, Ergonomics and Patient Safety (HEPS 2005), Florence, Italy, April 2005.

Handover Type Example	Example Instance
Shift handover	Ward nurse to ward nurse
	Day medical team to night on-call doctor
Geographic transfer	From A&E to ward
	From ward to ward
	Ward to theatre and back
	Ward to investigation and back
	GP to acute setting (A&E, out of hours and so on)
Care transfer	Paramedic to A&E
	Ward to theatre and back
	GP to acute setting (A&E, out of hours and so on)

Table 1: Handover Types

Handovers can be categorised on many levels, with considerable overlap. The following list of handover categories is not exhaustive, neither are the categories mutually exclusive:

- **Number of patients involved:** single patient / multiple patients
- **Level of handover detail:** summary only / full detail
- **Roles involved:** ward nurse, doctor, paramedic, district nurse, physiotherapist and so on
- **Handover within or between roles:** within a role / between two roles / multidisciplinary
- **Care change:** type of care changes / type of care stays the same
- **Scheduling:** ad-hoc / planned
- **Synchronous: Staff handing over** synchronously / asynchronously
- **Face-to-face:** staff handing over face-to-face / not face-to-face
- **Patient present:** yes / no

To assist in the assessment of categories, it is useful to consider what changes occur as part of the handover. In a shift handover, the individual team members are changing, in a geographic transfer handover the individual team members are changing, as is the location of the patient; in a paramedic to A&E handover, the patient location, the individual staff member and the care type all change.

Examples of common handover types can be broken down as follows:

- **Typical ward nursing shift handover:**
  - Multiple patients handed over communally with a summary only, followed by a small number of patients handed over individually in more detail
  - Between the two nurses responsible (within roles)
  - Co-located (face-to-face)
  - Synchronous
  - Planned

■ **Typical paramedic to A&E handover:**

- Single patient handed over with full detail (as full as possible).
- Between paramedic and A&E nurse (between roles)
- Patient changing location and care type
- Co-located (face-to-face)
- Synchronous
- Ad-hoc

The way that a specific handover is carried out in terms of: the roles present, specific location, information transferred, supporting documentation, importance placed on it, duration, patient present, and so on, varies greatly within the NHS due to a lack of handover standardisation. Certain recommendations for standardisation have been made for various contexts (London Ambulance Service guidelines, Royal College of Physicians Guidelines, Nursing training), with differing degrees of enforcement. However, to a larger extent handovers happen according to local conventions.

The differences between types of handover will have implications for different system design. For example, in a paramedic to A&E situation, greater consideration will have to be given to the ad-hoc and often rushed nature of the handover. This can also result in the documentation of the handover occurring some time after the actual handover event.

## **2.4 Users Involved in Handover**

In addition to the central role of the patient, whenever possible, handover will always involve at least two users, or two sets of users. In general, these can be referred to as the 'giver of handover' and 'receiver of handover'. In a specific kind of handover such as shift handover, a more specific name can be given, for example, 'incoming users' and 'outgoing users'. However, for the sake of clarity across all types of handover, the terms 'giver' of handover and 'receiver' of handover will be used in this document, as well as in the Requirements Spreadsheet. An example of where the giver and receiver can both be sets of individuals is ward nursing handovers where one team will go through their individual patients communally, and the other team will listen and question the givers.

In addition, there may be users in handover who are involved on both sides of the handover. For example, in shift handover, other staff that are on a different shift pattern may be present, and therefore they have worked on the shift now leaving, and will also be working with the new shift.

The receiver of handover doesn't necessarily only receive information about the situation being handed over. In shift handovers, it is likely that the receiver of handover (incoming users) will have worked in the same location during their previous shift as the giver of handover (outgoing users), and will therefore be able to add information about the handover items that have been the responsibility of the system for more than one shift. For example, the receiver may have been on shift when the patient was admitted and can give a more accurate description of the patient's condition on admission.

## 2.5 Stages of Handover

Figure 1 below shows the simplest breakdown of the handover process by dividing it into conceptual stages:

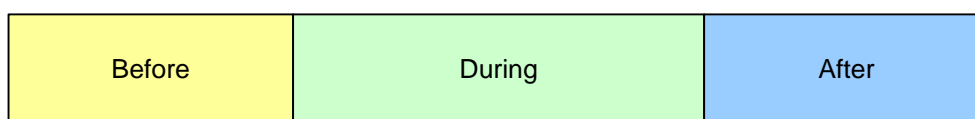


Figure 1: Stages of Handover - Simple Breakdown

Figure 2 below shows the stages of handover in more detail.

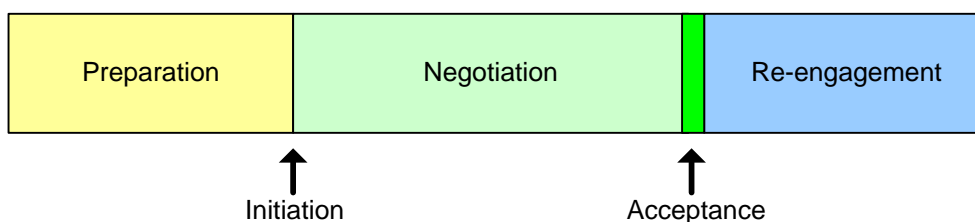


Figure 2: Stages of Handover - In Detail

In the first stage of handover, users will be preparing for the handover. Both the giver and receiver may be preparing for handover, depending on the type of handover and how it is carried out in that particular context. Handover preparation for the giver of handover may involve the gathering together of information, and the comparison of information sources to determine what is the most up-to-date information. This preparation is the 'taking stock' of the situation, where the giver is assembling a representation of the state of the situation that they are going to handover. This may be a very quick and purely mental process, or a longer process involving several members of staff and the creation and/or updating of documents such as nursing shift reports or patient lists. Some of these documents may be used in the handover itself. The receiver of handover may also prepare for handover by making themselves aware of the situation prior to handover.

The initiation of handover occurs when both sets of users are ready to handover. For scheduled handovers, this is fairly straightforward as they will usually occur at a fixed time and place. For unscheduled handovers, such as paramedic to A&E staff, the handover initiation must be preceded by a request to handover.

Although the negotiation is the main work of the handover process, the following interactions can take place:

- Transfer of information
- Review of care and treatment
- Opportunities for education
- Development of trust and team working
- Joint decision making

In healthcare, this typically lasts between 1 minute and 30 minutes, depending on the context of the handover.

At the end of the negotiation, the handover is concluded with an acceptance of the handover. This acceptance is usually an indication made by the receiver of handover that they are happy to take responsibility for the situation being handed over. The transition of responsibility may be indicated by a physical token (for example, a bleep is handed over), or it may be formalised, such as in a paramedic to A&E transfer, where a signature is, in theory, required. More often than not, the transfer of responsibility is implicit.

Figure 3 below shows an idealised view of who has the responsibility for items being handed over during the handover. Whether the responsibility is transferred at the beginning of handover, or at the end of the acceptance is a detail which is outside of the scope of the NHS CUI work. In addition, there may be context-specific legal positions regarding the point at which the receiver of handover becomes responsible for the items being handed over.

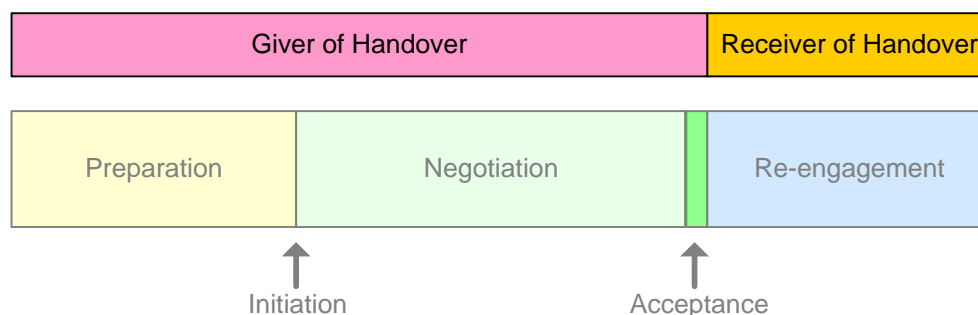


Figure 3: Users who are Responsible for Items during Stages of Handover

Specific items do not have to be mentioned in handover for the receiver to become responsible for them. For example, hospital doctors on duty over a weekend may be responsible for hundreds of patients but will only need to have the most urgent cases mentioned in the handover.

Once the handover has been accepted, the receiver takes responsibility for the items and starts working with them. Looking at this from a high-level perspective, this period can be called 're-engagement' as this is the point where the staff are re-engaging with the items for which they are responsible, even though an individual staff member may not have 'engaged' with the specific items before. This period of re-engagement is identified in handover literature as a key point of vulnerability for the 'system' (in the wider sense of the situation in hand), and therefore is a point of concern for patient safety. The receiver of handover then gets to work on the tasks identified in handover, clarify questions raised in the handover and so on.

## 3 NHS CUI HANDOVER PROJECT

This section describes the types of handover that were considered to be within the scope for the Design Guide Release 4 work on handover. It also describes the work that was carried out to investigate handover in order to build a basis for the NHS CUI design guidance on clinical handover.

### 3.1 Scope

#### 3.1.1 In Scope

- Shift handover
  - Task management across handover
  - Ongoing care on the wards
  - Ongoing care in the community
  - Paramedic to A&E handover
- Geographic transfer
  - From A&E to a ward
  - From ward to a ward
  - To and from the operating theatre
  - To and from investigations
- GP urgent transfer to acute setting
  - To A&E
  - To out of hours
  - To ambulance

#### 3.1.2 Out of Scope

- GP referral to specialist ('blind' referral)
- Request for consultations or other service
- Discharge from hospital to community for follow up
- Referral to hospital (except urgent community to hospital transfer)
- Referrals
- Definition of datasets for handover

#### 3.1.3 Discussion of Scope

Referrals were not considered to be within the scope of the handover project during the NHS CUI investigation (as shown in section 3.1). Although many types of handover were within scope, and many types of handover were studied, (see list of site visits in APPENDIX A), there was an emphasis on shift handover in hospitals, and towards multi-patient doctor's shift handover in particular. This bias was due to two factors: the perception of a greater need for a handover-specific interface for these kinds of handover, and the previous experience of the NHS CUI members working on the handover project.

## 3.2 Work Carried Out

### 3.2.1 Staff Members Involved

Title	Name
NHS CUI Project Lead (Junior doctor)	Henry Dowlen
NHS CUI Project Manager	Igor Laketic
Clinical advisor (District nurse)	David Allan-Smith
Clinical advisor (Senior doctor)	Kate Verrier Jones
NHS CFH Design Guide Workstream Lead	Tim Chearman
NHS CFH Design Guide Workstream Lead	Kit Lewis
NHS CUI Researcher	James Fone

Table 2: Staff Members Involved in Handover Work

### 3.2.2 Research Activities

Henry Dowlen performed almost all of the research activities. These activities included a large number of site visits (as listed in APPENDIX A), during which, handovers were observed, or the processes and artefacts used in handover were discussed. These sites covered a variety of care settings, handover types and artefacts used to support handover. In particular, they included several sites that had electronic support for handover.

Artefacts used to support handover were collected. Real (paper) copies, photocopies and screenshots of artefacts that were collected are available as part of the supporting documentation. In cases where the artefacts contain real patient data, this information has been made anonymous.

A selection of existing literature on handover was reviewed and used to inform the generation of the user requirements for handover. For a list of the literature references used, please see APPENDIX D.

A workshop was held with clinical users, which investigated their current experiences with handover and their views on what might be done to improve their handovers.

### 3.2.3 Project Outputs

#### ■ Primary output

- List of user requirements. This is documented in the Requirements Spreadsheet **{R1}**. Section 4 of this document provides information and guidance on this list.

#### ■ Main secondary outputs

- List of handover literature references and brief review
- A scenario which follows a patient through their care, and involves many different types of handover
- Handover artefacts collected from clinical sites
- List of sites visits carried out to investigate handover
- Notes from site visits (by Henry Dowlen and James Fone)
- Facilitator notes and participant responses from the clinical user handover workshop
- Example datasets for handover (see 0)

### 3.3 General Principles and Assumptions for Handover

For the NHS CUI work on handover, several assumptions were made about the environment in which clinicians would be handing over in the future. These assumptions were that:

- Multi-disciplinary electronic patient records would exist, and users involved in handover would have easy and universal access to them (within the rights of their profile), including mobile access
- Effective IT support of all kinds of handover would not be achieved by having access to electronic records alone, unless the clinical management system housing the records already had the functionality to satisfy the handover requirements

The general principles underlying the NHS CUI Programme's consideration for handover were that:

- The information used and updated before, during and after the handover process was a single reliable source. That is to say that users would no longer have to create 'local' paper copies of information that become out of date quickly and when it is updated it does not update a 'central' store of information. Users access a shared electronic record, and any updates made on the information would update the shared record, not just a 'handover copy'
- The IT support of handover tries to facilitate the creation of an up-to-date representation of the state of the 'system' being handed over. For example, a particular patient, or a whole hospital full of patients. This up-to-date representation is 'external' to users in the form of written documentation, but is also 'internal' to them, because the aim of the handover support is to help the user form a mental representation of the situation being handed over
- As much of the kinds of data likely to be required for handover in a particular context will be similar per patient (or item) handed over, IT support can perform much of the aggregation of this information automatically. Therefore, users do not have to continue to use a manual method to build an up-to-date representation of the state of the system. The patient summary screens on most clinical management systems already perform a similar function (on a per-patient basis). The degree to which the system can 'automatically' build this representation will depend on the extent to which it 'understands' the information in patient records
- The NHS CUI work would not try to define the datasets required for handover (at this stage) given that these will be highly variable on context of handover

## 4 GUIDANCE ON THE REQUIREMENTS SPREADSHEET

In this section, guidance is given on how to interpret, and how best to use the Requirements Spreadsheet {R1}.

### Note

This document does not provide information on each requirement that is listed in the Requirement Spreadsheet, nor their rationale. This is due to the large number of the requirements and the level of detail that is provided in the Requirements Spreadsheet.

### 4.1 How the Requirements Spreadsheet is Organised

The Requirements Spreadsheet is made up of two worksheets: Requirements and Reqs Grouped By Category, each presenting the requirements in a different format. The default listing of the requirements (Requirements worksheet) is not in any particular order because the requirements have been added to the worksheet as and when they were created. As a result, the Reference ID (RID) numbers signify the requirement's unique identifier only; where a requirement has been removed from the Requirements Spreadsheet, the RID number has also been removed.

Each requirement has been worded in the present tense, and from a user's point of view, therefore the majority begin with "Users can..." The rationale for this being that when 'users can' actually achieve the things laid out in the requirement (whether using a computer system or not) then the requirement will have been satisfied.

The Plain English version of each requirement has been provided where it has been considered that the wording of the requirement may need to be clarified for those readers who are not familiar with: handover, system design, or with the requirements themselves.

The Examples provided (for many of the requirements) are either sourced from existing handover solutions, or represent one possible way that a future handover solution might work.

Requirements have been grouped into 'categories', within the 'category sets' and are marked accordingly in the spreadsheet. These categories and category sets are detailed in section 4.3.

### Note

A requirement can belong to multiple categories within a category set as well as belonging to multiple category sets.

To quickly understand and review the list of requirements, it is recommended that requirements are reviewed in RID sequence. Alternative methods of reviewing the requirements are:

- Using the second worksheet 'Reqs Grouped By Category', where the requirements are grouped by the Handover Aspect category (denoted by the orange colour-coding)

### Note

Where requirements belong to multiple Handover Aspect categories, they are repeated in this list.

- Using the Excel 'autofilter' function to filter the list by category. Requirements can be filtered by any of the categories

The Source of each requirement is provided by referencing the literature, artefact, site visit, or analysis document from which it has been derived.

## 4.2 Terminology Used in the Requirement Spreadsheet

Term	Definition
<b>Users</b>	Refers to any of the staff members who are involved with handover, whether they are using a computer system or not. It refers to both the givers and receivers of handover.
<b>Item</b>	Handovers in a clinical context are usually about patients. However, handovers can also include non-patient items such as "please check the resus trolley", "please contact pharmacy about low stock in the ward drug cabinets". An item is a conceptual unit about which individual bits of information refer. Where the item is a patient then the information handed over about them will be attributes such as: name, age, diagnosis, current tasks and so on. Figure 4 illustrates the difference between a dataset and an item.
<b>Dataset</b>	Each item that is handed over will have a 'dataset' associated with it. This is the actual information that is handed over about the item. For a patient item, an example 'dataset' for shift handover might be: name, age, bed number, diagnosis, current tasks, recently completed tasks, and dependency score. An individual bit of a 'dataset' is referred to in the requirements as an 'attribute' or 'dataset part'. For an illustration of the difference between a dataset and an item, see Figure 4 below. This investigation did not attempt to define the datasets for use in handover due to the wide variation between different handover contexts.
<b>Snapshot</b>	Refers to a static view of the documentation used in handover, at the point at which the handover was accepted. It therefore represents the recorded information that the receiver of handover accepted responsibility for at the time of handover.
<b>Handshake</b>	Refers to the process of accepting (or rejecting) the transfer of responsibility at the end of the handover. This process involves both the giver and the receiver of the handover. This term has been taken from other industry's descriptions of handover process.
<b>Handover event</b>	Refers to the entire handover, from initiation to acceptance. A record of the handover event might include a record that the event took place as well as certain other details (for example, date and time, location, attendees and their handover role, status of the handshake). May also refer to a live recording of the entire event (for example, an audio recording).

Table 3: Terminology Used in the Requirements Spreadsheet

## 4.3 Categories and Category Sets

### 4.3.1 Introduction

The requirements have been organised into categories, mainly as a way of making them more easily accessible and reviewable. This way, they can be considered in smaller, related groups.

The creation of the categories and the matching of requirements to the categories is subjective, and it is recognised that the categories used in the Requirement Spreadsheet do not represent the only way of categorising the requirements.

The requirement categories are grouped into three main category sets (each one is colour coded), as detailed in sections 4.3.2, 4.3.3 and 4.3.4. Requirements can belong to more than one category within a category set.

In addition to the three category sets used, several other category sets were proposed and matched to requirements (Single patient / Multiple patients, Role handing over, Care setting). However, these category sets have not proved useful for the purpose of categorising the requirements and have been 'hidden' on the Requirements Spreadsheet.

### 4.3.2 Category Set: Generic or Specific (Colour = Blue)

This category set indicates whether requirements are specific to handover, or whether they apply to general clinical management system use. Because much of handover is related to task management (and a full clinical management system should enable electronic management of tasks and staff member's diaries), a separate category has been created for generic tasks and diary management.

An example of a generic task/diary management requirement is RID 51: Users can allocate and record tasks to particular sets of individuals (for example, jobs for the on-call team).

An example of a specific handover requirement is RID 22: The user receiving the handover is in control of the transfer of responsibility in the handover. The Generic or Specific categories are:

- **Generic Clinical Management Requirement**
- **Generic Tasks/Diary Requirement**
- **Specific Handover Requirement**

### 4.3.3 Category Set: Handover Stage (Colour = Pink)

This category set reflects how handover can be divided into four basic stages. The majority of the requirements that have been identified can apply at all stages of the handover because most activities can be carried out at any point in the handover. The exception to this are the few requirements that refer to the 'handshake' activity which occurs at the point of transfer of responsibility, and those requirements that only apply during handover (for example, access to information while in handover). The Handover Stage categories are:

- **Before Handover**
- **Handover Negotiation**
- **Handover Acceptance**
- **After Handover (Re-engagement)**

### 4.3.4 Category Set: Handover Aspect (Colour = Orange)

This category set has proved to be the most useful category set because it contains categories which group the requirements by aspect or theme of handover. It has also been used as a basis for the second worksheet 'Reqs Grouped By Category', where the requirements are grouped by this category set. Most requirements in this category set have only been matched to one or two categories of this set. The Handover Aspect categories are:

- **Dataset per Item:** requirements that involve the datasets per item such as the content of the dataset, its behaviour, order, and so on. For an illustration of the difference between 'datasets' and 'items', see Figure 4. For a list of example datasets for different contexts that were collected during the investigation, see 0. This investigation did not try and define the datasets for use in handover due to the wide variation between different handover contexts
- **Example Dataset Part:** requirements that describe the need for a particular dataset part in a particular context. (This category is a subset of the 'datasets per item' category)
- **Handshake:** requirements involving the transfer of responsibility part of the handover
- **Task Management:** requirements involving the management of tasks, whether handover specific or generic to any clinical task management
- **Time Component:** these requirements involve explicit representation over time of the information used in handover, such as in diary management, and handover snapshots

- **Item Lists:** requirements dealing with the (conceptual) list of items, such as the ordering of the items in a list or the inclusion criteria of the items in a list. For an illustration of the difference between datasets and items, see Figure 4 below
- **Good Practice:** a catch-all category for requirements that do not readily fit into a user interface-related category. The exclusion of requirements from this category does not mean that they are not good practice, but that they fit better into another category
- **Encouragement/Discouragement:** several of the requirements may seem unusual in a set of user requirements for a clinical system. This is because they fall between allowing users to do something, and forcing them to do something. In as much as users should be encouraged to do something, but they don't have to. The reverse is also true for discouragement
- **Updating:** requirements involving the update of information
- **Patient Identification:** requirements involving the identification of patients

### 4.3.5 Datasets and Item Lists

In order to illustrate the terms 'item' and 'dataset', and the categories named Dataset per Item and Item List, Figure 4 below shows how they apply to a conceptual set of information that might be used in handover.

#### Notes

- This illustration is not intended to show that handover information would be in a table format or that it is only this summary data
- Requirements in the Datasets per Item category influence the attributes that go horizontally, and the requirements in the Item List category influence the items that go vertically

John	25yrs	Ward A	Bed 1	unwell	Do this
Jack	35yrs	Ward A	Bed 2	poorly	Do that
Jane	45yrs	Ward B	Bed 1	sick	Do this
James	55yrs	Ward B	Bed 5	Ill	Do that
Jeff	25yrs	Ward C	Bed 1	unwell	

Figure 4 Illustration of 'Dataset per Item' versus 'Item List' on a Conceptual Set of Handover Data

## 5 NEXT STEPS FOR THE NHS CUI WORK ON HANDOVER

The aim of the handover investigation in Release 4 of the NHS CUI Design Guide was to create a first draft of user requirements for handover, which could then be evaluated before any design work or any design guidance is produced.

Having produced these requirements and the supporting documentation, the suggested next steps listed below aim to evaluate the requirements in terms of accuracy and completeness.

- **Offer the existing requirements and supporting documentation out for consultation:** the most effective consultation may require moderated feedback to gain a greater illustration of the requirements
- **Illustrate the requirements 'notionally':** Henry Dowlen has put in place a framework for notionally illustrating the requirement via a scenario that involves several different types of handover. Notional illustration would help with the clarification of the existing requirements, to communicate them for the purpose of evaluation, and to suggest new requirements. Henry Dowlen would be a useful person to involve in this due to the time he has spent being involved in handover IT support
- **Liaise with other groups who are investigating handover:** 0 lists other NHS-related handover research projects that are known to the NHS CUI Team. In addition, there are the clinical sites and companies working on handover solutions who were visited during this work on handover. The intention for liaising with other groups should be to form/be a key participant in a clinical handover community. Developing IT support for handover should continue to involve more than just the consideration of the IT requirements. Further steps should be taken to involve other medical stakeholders such as medical educators, architects of clinical sites (for workplace design), rota policy makers (to ensure adequately overlapping shifts) and so on
- **Investigate other existing clinical handover solutions:** this could involve a more thorough analysis of the collected handover artefacts and a more in-depth evaluation of existing handover solutions in-situ (for example, Henry Dowlen is developing a new system at Charing Cross Hospital, which would be an interesting study site)
- **Investigate all types of handover:** although a variety of handover types were investigated, not all types were. In addition, there was an emphasis towards hospital-based multi-patient handover
- **Investigate handover in other industries:** much was learned by a visit to the National Air Traffic Services to discover their experiences with and attitude to handover. Other industries may be equally as valuable, especially if they use and/or have attempted to use IT support for handover
- **Investigate other aims of handover:** in section 2, other aims of handover such as education, team cohesion and error correction have been suggested. Their impact on the existing requirements should be investigated
- **Consider how the clinical system functionality implied by the existing handover requirements might be used for other clinical management purposes:** in observing current clinical work in hospitals, the artefacts initially developed for handover (paper patient lists) have become central to much of the clinical work done on wards. It is likely that electronic versions would also have a similar impact.
- **Consider how the data generated by the system could be used for secondary purposes.** Data captured could be used to:
  - Form the basis for commissioning
  - Support resource management

- Facilitate audit
- **Gain a greater understanding of the IT environment that may exist to handover support in the near future:** as well as understanding whether the assumptions about what information will be available and to what degree, the likelihood of, and impact of, devices such as tablet PCs and large-scale shared displays (interactive whiteboards) should be considered
- **Evaluate existing clinical management systems:** for their effectiveness in supporting handover (possibly using the existing requirements)
- **Think about how handover could be measured:** in order to help with evaluation of any proposed/implemented handover solutions

## 6 DOCUMENT INFORMATION

### 6.1 Terms and Abbreviations

Abbreviation	Definition
CUI	Common User Interface
NHS	National Health Service
NHS CFH	NHS Connecting for Health

Table 4: Terms and Abbreviations

### 6.2 Definitions

Term	Definition
NHS Entity	Within this document, defined as a single NHS organisation or group that is operated within a single technical infrastructure environment by a defined group of IT administrators.
The Authority	The organisation implementing the NHS National Programme for IT (currently NHS Connecting for Health).
Current best practice	Current best practice is used rather than best practice, as over time best practice guidance may change or be revised due to changes to products, changes in technology, or simply the additional field deployment experience that comes over time.

Table 5: Definitions

### 6.3 Nomenclature

This section shows how to interpret the different styles used in this document to denote various types of information.

#### **Body Text**

Code, script and other markup languages within the main text are denoted with `monospace text`.

Interface dialog names, field names and controls are denoted with **bold** text.

Folder and file names are denoted with Title Case text.

#### **Cross References**

Cross references to other sections in the current document comprise a section number. Cross references may also be to figures and tables, where the caption number only might be shown.

References to other Project documents are shown in *italics*. Footnotes with additional details may also be used.

References to sections in publicly available documents are shown in *italics* and the document referred to will be given as a footnote.

References to other external web-based content are shown in *italics* and a hyperlink will be given as a footnote.

## 6.4 References

Reference	Document	Version	Date
R1.	NHS CUI Design Guide R4 Handover Requirements Spreadsheet	1.0.0.0	01-Mar-2007
R2.	BMA and Junior Doctors' Committee (2004). Safe handover: safe patients. <a href="http://www.bma.org.uk/ap.nsf/Content/Handover">http://www.bma.org.uk/ap.nsf/Content/Handover</a>		
R3.	Lardner, R. (1996) Effective shift handover. Prepared for Health and Safety Executive Offshore Safety Division. <a href="http://www.hse.gov.uk/research/otopdf/1996/oto96003.pdf">http://www.hse.gov.uk/research/otopdf/1996/oto96003.pdf</a>		
R4.	Wears RL, Perry SJ, Shapiro M, Beach C, Croskerry P. and Behara R (2003). Shift Changes Among Emergency Physicians: Best of Times, Worst of Times. In Proceedings of the Human Factors and Ergonomics Society 47 <sup>th</sup> Annual Meeting, Human Factors and Ergonomics Society, 1420-1423.		
R5.	Wilson S, Galliers J, and Fone J (2005). Medical Handover: A Study and Implications for Information Technology. Healthcare Systems, Ergonomics and Patient Safety (HEPS 2005), Florence, Italy, April 2005.		

Table 6: References

## APPENDIX A LIST OF SITE VISITS

Visit ID	Site Name	Staff Visited				
		Doctor	Nurse	AHP	IT	Other
V1	Birmingham Heartlands	x			x	
V2	Birmingham Defence Medical Services	x			x	
V3	Blackpool Hospital	x	x			
V4	Kingston Hospital	x	x	x	x	x
V5	Charing Cross Hospital	x	x	x	x	x
V6	Manchester Royal Infirmary					x
V7	St. Mary's Hospital Paddington	x	x			
V8	West Middlesex Hospital				x	
V9	Wexham Park Hospital		x			
V10	Chelsea Westminster	x	x		x	
V11	South Tees Trust	x			x	
V12	Portsmouth Hospital	x	x		x	
V13	Royal Free Hospital				x	
V14	London Ambulance Service	x				x
V15	National Air Traffic Services					x
V16	St. George's Hospital				x	
V17	District Nurse (site unknown)		x			
V18	A&E Department	x	x			
V20	GP Practice Putney					
V21	GP Surgery Surbiton	x	x	x		
V22	GP Surgery Cardiff	x	x			
V23	GP Surgery Redhill	x	x		x	
V24	Guildford Hospital	x		x		
V25	Poole Hospital	x				
V26	Brighton Hospital	x	x			
V27	Helicopter Emergency Medical Service					
V33	Physiotherapist, Royal Marines			x		
V35	Community Physiotherapist			x		

Table 7: Site Visits

## APPENDIX B      EXAMPLE HANDOVER DATASETS

### COLLECTED

Source	Appropriate for	Dataset
London Ambulance Service	Paramedic / A&E	Vital signs, history, injuries, name, age. Followed by: social circumstances to help with discharge planning, relevant drugs and medical information
		M.I.S.T.
		Cause, treatment and expectations – patient ID, Hx, Tx
National Air Traffic Service		W.E.S.T.
Handover workshop	Doctor	Age, sex, and other personal details. Current problems, significant past, jobs to be done, progress since last handover, major changes, for example, drugs, plan, significant results, important details for example, DNR
	ITU	Name, age, test results, current status, major changes, chronic conditions, jobs, DNR status, obs frequency, social background, discharge projection, eating and drinking, dependency
	Nurse to Nurse	Name, age, why in hospital, current chronic conditions, tests, results
	Nurse	Name, dob, presenting complaint, infection status, current interventions such as, 'jobs', plans of care, any problems occurred or risks highlighted
	Weekend doctors	High level summary: name, team (consultant under), dob and hospital number, PMH – v brief and summarised (with more detail available 'on expansion'), current problems, progress – relevant Multi-disciplinary team input, plan/jobs relevant to current problem
		Names, consultant, basic diagnosis and any relevant problems
	Doctors	Patient details, consultant or GP responsible, PMH (may be coded), current problem for example, pneumonia, progress for example, had 7 days IV Abcs, converted to oral. Jobs
		Pt name, dob, number, named doctor (GP or consultant), current problem (to include admission reason and any other problems since admission), progress, plan (to discharge in 1 week on arrangement of services, jobs)
		Patient details, main current problems (not long PMH), progress to date, plan, main jobs that need to be done by the person being handed over to. Jobs specific to person
	Nurse to theatre	Much more detailed including observations
	Surgical theatre	Patient's personal details. Procedure to be carried out. Patient's history, care carried out, tests to be completed or undergone (maybe currently ongoing), medications (maybe just current), allergies, social background.
	Doctors at night	Incomplete jobs, follow up to be done, future jobs
	GP from out of hours GP	Summary and demographics, current situation, other health Professionals involved: DGN, relatives, next of kin

Source	Appropriate for	Dataset
Clinical site observations	HDU	Time-based observations
	Hospital 24/7	Bed, ward, consultant, last name, first name, hospital ID, priority, clinical summary, doctor's tasks, nurse's tasks, nurse's notes and doctor's handover notes
	Ward clerks	Cut-down version of hospital 24/7
	Surgical ward	Demographics, current problems summary, task lists with pertinent tasks highlighted AND role/speciality-based information
	A&E communal display	Current patients plus: basic demographics, time to breach, outstanding tasks
	Hospital – nurse (V13)	Forename, surname, dob, NHS number, ward, consultant, diagnosis, clinical priority, clinical instructions, results to be reviewed, investigations to be requested, outcome, audit: user and time stamps.
	London Ambulance Service Control	Patient details and address. Some clinical information and an assessment of severity. Medical information is free text
	District nurse	Patient details, correct location, brief summary, task to be performed
	A&E communal display	Handing over clinical summary, intended tasks, intended outcomes, breach times
	Hospital (V27)	Name/Age, MOI/Location, GCS/Limb movements, Injuries top to toe, Interventions/Drugs, Volume Issues Y/N, Immediate needs
	Midwifery	Patient id, progress and risk factors inc: number of previous pregnancies, results of exams, future care Colour to indicate risk status
	Hospital physiotherapist	Same as dataset for ward nurse, plus which patients need to be seen and why
	Hospital occupational therapist	Same as Hospital physiotherapist plus dependency and mobility status
Artefact analysis	Surgical handover	Patient's name, location (ward and bed number), date of admission, diagnosis, procedure (with date), complications and progress, management plan, resuscitation plan, consultant availability (and instructions if not available), expected need for review, with name of doctor completing handover and date to confirm that information is current
	Doctors (Student BMJ)	Patient name, age and location, presenting complaint, working diagnosis, treatment given. When relevant extra items: results of investigations or results pending, past medical history and drugs, key clinical findings, social issues, tasks which need to be done
	Paediatric renal hospital doctors	Patient identifier, age, diagnosis, management/problems, plan (all free text)
	Generic (pharmacist clinical advisor)	Patient name / number (links to more details), handover comments (free text), exceptions (problems and issues), patient information (allergies and so on)
	Hospital at Night ward view	Ward level information: beds total, beds free, dependency ward level actions. Patient level information: status (illness), expected discharge, hospital number, surname, sex, dob, consultant, infection risk, dependency, merlin forms, order/results, HAN link
	CCOT	Name, number, dob, ward and consultant, diagnosis and PMH, adjuvant therapies, referred by and referred date, triggers for PART, interventions required, outcomes, last updated, days on list, information about discharge
	St Marys nurses	Patient ID, age, diagnosis and PMH, nursing needs/intervention, (plan), social circumstance, additional notes

Source	Appropriate for	Dataset
	NOC BIU nurses	Room and bed, patient name, age, consultants and teams under, diagnosis and PMH, case details, plan, dependency score, physiotherapist/OT
	Image 1	Current length of stay, bed, patient number, surname, forename, sex, problems, jobs, AEP score, name and time last updated
	Image 2	PMH, current problems, management plan, interested consultants, name of person updating
	Image 4	Room, age, consultant, free text inc diagnosis and plan
	Image 5	Name, age, diagnosis, op and date, X-ray, wound, Hb, medical, social
	Image 7	Ward, bed, surname, first name, dob, sex, PMI number, consultant, speciality, priority, free text clinical summary inc: current problem, PMH, interventions, social and so on
	Image 8	Name, age, diagnosis, op and date, X-ray, wound, Hb, medical, social

Table 8: Example Handover Datasets

## APPENDIX C      GROUPS RESEARCHING HANDOVER

Table 9 below shows other NHS-related handover research projects.

Project	Organisation	Contact
Handover datasets	Clinical Risk Minimisation – Connecting for Health	Handover Project Manager: Sarah Crossland
Records Standards work	Heath Informatics Unit – Royal College of Physicians	Project Manager: Mala Bridgelal Ram (c/o Valerie Porter)
'Ghandi' Generic Handover Investigation	City University Human Computer Interaction Design Department	<a href="http://hcid.soi.city.ac.uk/research/Ghandi.html">http://hcid.soi.city.ac.uk/research/Ghandi.html</a>

Table 9: Handover Research Projects

## APPENDIX D      HANDOVER LITERATURE REFERENCES

Literature Reference ID	Literature Reference
L1	Perry, S. (2004) "Transitions in Care: Studying Safety in Emergency Department Signovers." <i>Focus On Patient Safety</i> , Volume 7, pp 1-3 <a href="http://www.npsf.org/download/Focus2004Vol7No2.pdf">http://www.npsf.org/download/Focus2004Vol7No2.pdf</a> (Accessed 09-Mar-2007)
L2	Wilson, S., Galliers, J. and Fone, J. (2006) "Not All Sharing Is Equal: Investigating the Impact of a Large Display on Small Group Collaborative Work." To appear in <i>Proceedings CSCW2006</i> .
L3	Wears, R.L., Shawna J., Perry, S., Wilson, S., Galliers, J. and Fone, J. (2006) "Emergency department status boards: user-evolved artefacts for inter- and intra-group coordination." To appear in <i>Cognition Technology and Work</i> .
L4	Sexton, A. (2004) "Nursing handovers: do we really need them?" <i>Journal of Nursing Management.</i> , 2004 12(1):37-42.
L5	Royal College of Physicians (2000) "GPT Handbook: Guidelines on effective patient handover for physicians"
L6	Corbett, B. (2003) Proposal for "The Hospital at night in a large teaching hospital." <a href="http://www.campus.ncl.ac.uk/pimd/documents/MMC/propJamesCook.pdf#search=%22handover%20South%20Tees%22">http://www.campus.ncl.ac.uk/pimd/documents/MMC/propJamesCook.pdf#search=%22handover%20South%20Tees%22</a> (Accessed 09-Mar-2007)
L7	Nemeth, C.P., Kowalsky, J., Brandwijk, M., O'Connor, M.F., Nunnally, M.E., Klock, P.A. and Cook, R.I. (2005) "Distributed Cognition: How Hand-Off Communication Actually Works." <a href="http://ctlab.protectedsite.net/documents/ASA2005%20Handoffs%20POSTER.pdf">http://ctlab.protectedsite.net/documents/ASA2005%20Handoffs%20POSTER.pdf</a>
L8	Miller, A., Venkatesh, B. and Limpus, A. (2004) "Thematic Threads: Unlocking the mystery of communication breakdown in clinical handovers." <i>ARCHI Clinical Handover Conference</i> , Adelaide 2004.
L9	Behara, R., Wears, R.L., Perry, S., Eisenberg, E., Murphy, L., VanderHoeft, M., Shapiro, M., Beach, C., Croskerry, P. and Cosby, K. (2005) "A Conceptual Framework for Studying the Safety of Transitions in Emergency Care." <i>Advances in Patient Safety: From Research to Implementation</i> . Vol 2 <a href="http://www.ahrq.gov/qual/advances">http://www.ahrq.gov/qual/advances</a> (Accessed 09-Mar-2007)
L10	Australian Council for Safety and Quality in Healthcare (2005) "Clinical Handover and Patient Safety - Literature Review Report." <a href="http://www.safetyandquality.org/internet/safety/publishing.nsf/Content/AA1369AD4AC5FC2ACA2571BF0081CD95/\$File/clinhovrlitrev.pdf">http://www.safetyandquality.org/internet/safety/publishing.nsf/Content/AA1369AD4AC5FC2ACA2571BF0081CD95/\$File/clinhovrlitrev.pdf</a> (Accessed 09-Mar-2007)
L11	Cheah, L.P., Amott, D.H., Pollard, J. and Watters, D.A.K. (2005) "Electronic medical handover: towards safer medical care." <i>MJA</i> 2005; 183 (7): 369-372. <a href="http://www.mja.com.au/public/issues/183_07_031005/che10928_fm.html">http://www.mja.com.au/public/issues/183_07_031005/che10928_fm.html</a> (Accessed 09-Mar-2007)
L12	Roy, S. (2005) "My Patient hospital handover system," contained within <i>Delivering Front Line Clinical Engagement in Health Informatics</i> , by Dr Robin Mann: <a href="http://hiu.rcplondon.ac.uk/documents/HC2005-presentations.pdf">http://hiu.rcplondon.ac.uk/documents/HC2005-presentations.pdf</a> (Accessed 09-Mar-2007)
L13	Wilson, S., Fone, J. and Galliers, J. (2004) "Clinical Handover Appliance (CHA): A Prototype Design. Technical Report, ACE/TR3/V1." <i>HCI Design</i> , City University. <a href="http://www-hcid.soi.city.ac.uk/research/Ace.html">http://www-hcid.soi.city.ac.uk/research/Ace.html</a> (Accessed 09-Mar-2007)
L14	Wilson, S., Galliers, J. and Fone, J. (2006) "Cognitive Artefacts In Support Of Medical Shift Handover: An In-Use, In-Situ Evaluation." To appear in <i>International Journal of Human-Computer Interaction</i> .
L15	Patterson, E. (2007). "Handovers". <a href="http://csei.eng.ohio-state.edu/patterson//Handovers.html">http://csei.eng.ohio-state.edu/patterson//Handovers.html</a> (Accessed 09-Mar-2007)
L16	BMA and NPSA (2004) "Safe handover: safe patients". <a href="http://www.npsa.nhs.uk/site/media/documents/1037_Handover.pdf">http://www.npsa.nhs.uk/site/media/documents/1037_Handover.pdf</a> (Accessed 09-Mar-2007)

Literature Reference ID	Literature Reference
L17	Various Authors (2006) "That's all I got handed over." BMJ 2006;332(7539):496 <a href="http://www.bmj.com/cgi/content/extract/332/7539/496">http://www.bmj.com/cgi/content/extract/332/7539/496</a> (Review, accessed 09-Mar-2007)
L18	Lardner, R. (1996) "Effective Shift Handover: A Literature Review." Health and Safety Executive. June 1996. Offshore technology report-OTO 96 003. <a href="http://www.hse.gov.uk/research/otopdf/1996/oto96003.pdf">http://www.hse.gov.uk/research/otopdf/1996/oto96003.pdf</a> (Accessed 09-Mar-2007)
L20	Cavendish, S., Gallen, D. (2006) "Investigation into the use of PDAs in Hospitals for Safe Handover". Personal Communication. Leicestershire, Northamptonshire and Rutland Healthcare Workforce Deanery.
L21	Bernau, S., Aldington, S., Robinson, G. and Beasley, R. (2006) "From medical student to junior doctor: The medical handover - a good habit to cultivate." studentBMJ 2006;14:177 – 220 <a href="http://www.studentbmj.com/search/pdf/06/05/sbmj188.pdf">http://www.studentbmj.com/search/pdf/06/05/sbmj188.pdf</a> (Accessed 09-Mar-2007)
L22	Barthelmes, L. (2006) "The Wales Handover Survey: junior doctors take charge." <a href="http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/TheWalesHandoverSurvey.htm">http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/TheWalesHandoverSurvey.htm</a> (Accessed 09-Mar-2007)
L23	Gulati, G. (2006) "Safe handover in psychiatry: is it time to set standards?" <a href="http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/SafeHandoverInPsychiatry.htm">http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/SafeHandoverInPsychiatry.htm</a> (Accessed 09-Mar-2007)
L24	Ottewill, M. (2006) "Critical points on the patient pathway: a story from Brighton" <a href="http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/CriticalPoints.htm">http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/CriticalPoints.htm</a> (Accessed 09-Mar-2007)
L26	Forster, A., Witherington, E. (2006) "Transfers of Care: Mapping the Terrain." <a href="http://www.saferhealthcare.org.uk/IHI/Topics/AnalysisandTheory/Features/6130_TransfersofCare_MappingtheTerrain.htm">http://www.saferhealthcare.org.uk/IHI/Topics/AnalysisandTheory/Features/6130_TransfersofCare_MappingtheTerrain.htm</a> (Accessed 09-Mar-2007)
L27	Healey, K., Wyatt, M. (2006) "Are you are working at full STEAM? A clinical assessment system to escalate and monitor activity." <a href="http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/FullSTEAM.htm">http://www.saferhealthcare.org.uk/IHI/Topics/ManagingChange/SafetyStories/FullSTEAM.htm</a> (Accessed 09-Mar-2007)
L28	Dods, V. (2006) "The community matron: a vital link between hospital and community care." <a href="http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/TheCommunityMatronVitalLinkBetweenHospitalAndCommunityCare.htm">http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/TheCommunityMatronVitalLinkBetweenHospitalAndCommunityCare.htm</a> (Accessed 09-Mar-2007)
L30	Various Authors (2006) "Rapid Responses to: REVIEWS: Myooran Sithamparanathan 'That's all I got handed over.'" <a href="http://www.bmj.com/cgi/eletters/332/7539/496">http://www.bmj.com/cgi/eletters/332/7539/496</a> (Accessed 09-Mar-2007)
L31	Healthcare Workforce (2006). "Hospital at Night Baseline Report." <a href="http://www.healthcareworkforce.nhs.uk/working_time_directive/wtd_projects/baseline_report.html">http://www.healthcareworkforce.nhs.uk/working_time_directive/wtd_projects/baseline_report.html</a> (Accessed 09-Mar-2007)
L32	Various Authors (2006) "Rapid Responses to: LETTERS: Mathew Tokode, Breden O'Riordan, and Ludger Barthelmes 'That's all I got handed over': Missed opportunities and opportunity for near misses in Wales" <a href="http://www.bmj.com/cgi/eletters/332/7541/610-a">http://www.bmj.com/cgi/eletters/332/7541/610-a</a> (Accessed 09-Mar-2007)
L33	Muppala, H., Clarke, F. (2006) "Burnley General Hospital's team approach to improve handover of care." <a href="http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/BurnleyGeneralHospital.htm">http://www.saferhealthcare.org.uk/IHI/Topics/IntheRealWorld/TransferofCare/SafetyStories/BurnleyGeneralHospital.htm</a> (Accessed 09-Mar-2007)
L34	London Ambulance Service NHS Trust (2002) "Procedure on the Handover of Patients." Personal Communication.
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Literature Reference ID	Literature Reference
L36	National Air Traffic Services. "Guidance on handover." Personal Communication.
L37	Common User Interface Internal Document
L38	Common User Interface Internal Document
L39	Common User Interface Internal Document
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L41	Common User Interface Internal Document
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Table 10: Literature References

# REVISION AND SIGNOFF SHEET

## Change Record

Date	Author	Version	Change Reference
19-Dec-2006	James Fone	0.0.0.1	Created
21-Dec-2006	James Fone	0.0.0.5	Updated
05-Jan-2007	Clare Coney	0.0.0.6	Copyedit
05-Jan-2007	James Fone	0.0.0.7	Updated document
11-Jan-2007	Clare Coney	0.0.0.8	Copyedit
11-Jan-2007	Clare Coney	0.0.0.9	Cleansed
12-Jan-2007	Clare Coney	0.0.0.10	Minor updates
12-Jan-2007	Clare Coney	0.0.1.0	Cleansed. Working Baseline
12-Jan-2007	Igor Laketic	0.0.1.1	Added comments post audience review
15-Jan-2007	Clare Coney	0.0.1.2	Copyedit updates
15-Jan-2007	Clare Coney	0.0.2.0	Cleansed
25-Jan-2007	James Fone	0.0.2.1	Minor changes post H Dowlen's comments
29-Jan-2007	Niki Nicolaides	0.0.2.2	Copyedited changes (displayed as highlighted text, not markup)
30-Jan-2007	Igor Laketic	0.0.2.3	Checked changes
30-Jan-2007	Niki Nicolaides	0.1.0.0	Document cleansed
01-Mar-2007	Vivienne Jones	1.0.0.0	Baseline following Acceptance
09-Mar-2007	James Fone	1.0.0.1	Appendix of literature references added (and cross referenced)
13-Mar-2007	Marc Brown	1.0.0.2	Copyedit changes
13-Mar-2007	James Fone	1.0.0.3	Updated post copyedit
13-Mar-2007	Marc Brown	1.1.0.0	Document cleansed, Baseline Candidate
21-Mar-2007	Vivienne Jones	2.0.0.0	Baseline following Acceptance
26-Jul-2007	Vivienne Jones	2.0.0.0	Preface added so the document can be released to the Distribution Mechanism. The date fields were changed to static text as the original acceptance date needs to be maintained from a cross-reference point of view.

Document Status has the following meaning:

- **Drafts 0.0.0.X** – Draft document reviewed by the Microsoft CUI project team and the Authority designate for the appropriate Workstream. The document is liable to change.
- **Working Baseline 0.0.X.0** – The document has reached the end of the review phase and may only have minor changes. The document will be submitted to the Authority CUI project team for wider review by stakeholders, ensuring buy-in and to assist in communication.
- **Baseline Candidate 0.X.0.0** – The document has reached the end of the review phase and it is ready to be frozen on formal agreement between the Authority and the Company
- **Baseline X.0.0.0** – The document has been formally agreed between the Authority and the Company

Note that minor updates or corrections to a document may lead to multiple versions at a particular status.

## Open Issues Summary

Issue	Raised By	Action to Resolve
None		

## Audience

The audience for this document includes:

- **Authority CUI Manager / Project Sponsor.** Overall project manager and sponsor for the NHS CUI project within the Authority.
- **Authority NHS CUI Design Guide Workstream Project Manager.** Responsible for ongoing management and administration of the Workstream.
- **The Authority Project Team.** This document defines the approach to be taken during this assessment and therefore must be agreed by the Authority.
- **Microsoft NHS CUI Team.** This document defines the approach to be taken during this assessment, including a redefinition of the NHS CUI Design Guide Workstream strategy.

## Reviewers

Name	Position	Version Approved	Date
Kate Verrier Jones	NHS CFH Clinical Advisor	0.0.0.5	4-Jan-2007
Paul Robinson	NHS CUI Program Manager		
Igor Laketic	NHS CUI Program Manager	0.0.0.9	11-Jan-2007
Igor Laketic	NHS CUI Program Manager	0.0.1.0	12-Jan-2007
Kate Verrier Jones	NHS CFH Clinical Advisor	0.0.1.0	12-Jan-2007
David Allan-Smith	NHS CFH Clinical Advisor	0.0.1.0	12-Jan-2007
Tim Chearman	NHS CFH Design Guide Workstream Lead	0.0.1.0	12-Jan-2007
Henry Dowlen	NHS CFH Clinical Advisor	0.0.1.0	22-Jan-2007

## Distribution

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## Document Properties

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