

Design Guidance

Patient Name Input and Display

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Prepared by
Microsoft

PREFACE

Documents replaced by this document

Document Title	Version
Design Guidance – Patient Name Input and Display	1.0.0.0

Documents to be read in conjunction with this document

Document Title	Version
Design Guidance – Accessibility Principles	1.0.0.0
Design Guidance – Accessibility Checklist	1.0.0.0

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1 INTRODUCTION

This document describes the design guidance for the display and input of Patient Name data. It describes the area of focus, provides guidance and recommendations, and explains the rationale behind the guidance and recommendations.

This document is intended for the use of anyone whose role includes screen design, implementation, or assessment of a clinical application. This document can be used as guidance for the:

- Specification of an input and display control for Patient Name data in a user interface (UI)
- Implementation of an input and display control for Patient Name data within an application
- Assessment of an input and display control for Patient Name data in a clinical application user interface

Important

The visual representations used within this document to display the guidance are illustrative only. Stylistic choices are not part of this guidance and are therefore not mandatory requirements for compliance with the guidance in this document.

Figure 1, Figure 2 and Figure 3 show examples of Patient Name display, and the two formats that can be used to accept user input.

SMITH, John(Mr)

Figure 1: Example of a Patient Name Display

Figure 2: Example of an InForm Style Patient Name Input Control

Figure 3: Example of an InLine Style Patient Name Input Control with Prompts

Table 1 describes the changes made since the previous version of this guidance (Baseline version 1.0.0.0 dated 01-Apr-2008):

Change	IDs	Change Description
Deleted		Reference to storage of material (throughout guidance)
Modified		Dependencies and Assumptions reference the UK National Patient Safety Authority (NPSA) standards
	NID-0005	Avoid truncation of information where possible
		Emphasizing UK Government Data Standards Catalogue (GDSC) requirements for title formatting (section 2.1.4.2)

Change	IDs	Change Description
		Including note relating to Optional Data Fields (section 2.1.5)
		Adjusting text to differentiate between Preferred Name and Nick Name (section 2.1.5)
		Adjusting text relating to Suffixes (section 2.1.5)
		Correction to list of Title options (section 2.2.1)
	NID-0016	Correction to list of Title options
		Correction to list of Title options (section 2.2.1.2)
		Correcting field length reference (section 2.2.4)
	NID-0033	Correcting field length reference
	NID-0035	Correcting field length reference
		Moving Title to optional field (section 2.2.10)
		Adjusting text to include NPSA reference (section 2.5.1.4)
Added		Additional note clarifying distinction between descriptors and labels (section 2)
		NPSA wristband recommendations (section 2.1.4.2)
	NID-0062	Provide informational prompt by default
	NID-0063	Occlude informational prompt in the presence of user data
	NID-0064	Remove default prompt when user enters data
		Additional example (Figure 10)

Table 1: Changes Since the Last Baseline Version

1.1 Customer Need

This section explains why the guidance has been created.

1.1.1 Overview

Patient names are displayed in multiple places within a clinical application. One example is in a patient banner where unambiguous Patient Name display enhances patient safety and application usability by:

- Ensuring the display of the Patient Name in a consistent and clear manner that is easy to read, and clearly distinguishes name elements
- Ensuring quick and accurate identification of the patient

1.1.2 Eliminating Inconsistencies Across Systems

Significant inconsistencies exist in the labelling, inputting, and display of people's names across various clinical applications. This can result in incorrect identification of patients, leading to safety issues and, potentially, additional staff training. Reduction of inconsistency is therefore an important goal in itself, and the primary aim of this guidance.

1.1.3 Simplified User Interface Design and Development

Having a consistent layout and set of values for the input and display of data items in clinical systems makes the design and development of such systems safer, easier and quicker.

1.2 Scope

This section defines the scope of this guidance document.

1.2.1 In Scope

This guidance is applicable primarily to electronic user interfaces such as those displayed on desktop and laptop computers. However, many of the principles can be applied to paper form design should it be required. The following items are in scope:

- **Defining the valid values for Patient Name display and input**
- **Labelling of information, including:**
 - Definition of the elements of a Patient Name
 - Definition of the values for each element
 - How items of information are to be labelled; this will cover the label text, positioning and any elements of styling required to differentiate labels visually from data
- **Control layout and structure, in order to achieve:**
 - Optimal visibility of the values
 - Easy recognition of the values in the context of the wider clinical application
 - Easy recognition of data type requested for input
 - Reduction of invalid entries
- **Size of input fields, in order to:**
 - Avoid wasting screen space
 - Ensure optimal display of entire data items

1.2.2 Out of Scope

This section defines areas that are not covered in this guidance. Although there may be specific risks associated with these areas that are not addressed in this guidance, it is likely that the principles in this guidance will extend to the input and display of patient name in many of the areas listed below.

The following items are out of scope:

- **Data storage** – This guidance does not prescribe the format for storing data that is input or displayed
- **Terms of use** – This guidance does not define when an input field or display should be presented within a system
- **Form design** – This guidance does not prescribe the correct layout for a form, the navigation around a form, or how these controls should be labelled

Note

Listing an item as out of scope does not classify it as unimportant. Project time and resource constraints inevitably restrict what can be in scope for a particular release. It is possible that items out of scope for this release may be considered for a future release.

1.3 Key Principles

The following key principles have shaped the guidance in this document:

- Display information according to existing standards
- Minimize opportunities for human error
- Display sufficient instructional information to support data quality
- Promote consistency across the mix of users, clinical applications and care settings
- Support reliable and accurate identification of an individual patient record
- Minimize opportunities where patient-clinician relationships may be compromised through ambiguity

2 RECOMMENDATIONS AND GUIDANCE

The guidance provided throughout this document is based upon a programme of user research, including:

- A desk-based research project looking at a range of information entry Web pages and clinical applications
- A Web-based survey of 41 respondents drawn from Independent Software Vendors (ISVs), healthcare administrative staff and healthcare professionals, including clinicians and community pharmacists
- A Patient Safety Assessment

Important

- The visual representations used within this document to display the guidance are illustrative only. They are simplified in order to support understanding of the guidance points. Stylistic choices, such as colours, fonts or icons are not part of the guidance and unless otherwise specified are not mandatory requirements for compliance with the guidance in this document.
- This document refers to the various Patient Name inputs using consistent descriptors ('Family Name', 'Given Name' and so on). This includes the labels used within the visual representations. However, the wording of those labels is not Mandatory but only Recommended (see section 2.5.1). It is recognised that, where applicable and appropriate for the clinical context, implementations may use differently worded labels. An example of alternative descriptors is as used within the UK NHS's patient wristbands where 'Family Name' is replaced with 'Last Name' and 'Given Name' with 'First Name'.

2.1 Patient Name Display

This section provides guidance for the display of a Patient Name with enough information to distinguish it for identification purposes. Figure 4 illustrates the correct format for displaying a Patient Name (with minimum identification attributes).

SMITH, John(Mr)

Figure 4: Example of a Patient Name Display with Minimum Attributes for Identification

2.1.1 Guidance

ID	Guideline	Status
NID-0001	The display must present the Family Name in all uppercase letters to clearly distinguish it from the Given Name.	Mandatory
NID-0002	The display must separate the Family Name and Given Name using a comma to further establish that the Family Name is being placed first.	Mandatory
NID-0003	The display must include parentheses around the Title to separate and distinguish it from the other name elements.	Mandatory
NID-0004	The display must present the name elements strictly in the order shown.	Mandatory
NID-0005	The display must present all data for each specified element (Family Name, Given Name and Title) of the Patient Name in full. Avoid truncation of information where possible.	Mandatory
NID-0006	The display must separate the presentation of Given Name and Title by a single space.	Mandatory
NID-0007	The display must present the Title element in title case, for example, Sir not SIR, Mr not MR.	Mandatory
NID-0008	The display must present a single pair of parentheses around the Title element, for example, (Mr).	Mandatory

ID	Guideline	Status
NID-0009	The display must allow any free-text (up to 35 characters) to be presented in the Title element.	Mandatory
NID-0010	The display must omit a trailing full stop from the Title element (for example, 'Mr' not 'Mr.').	Mandatory
NID-0011	The display must allow the Family Name, Given Name and Title elements to present at least the maximum field sizes specified in this guidance.	Mandatory
NID-0012	The display must allow for the Family Name and Given Name elements to consist of multiple components. Components are constituent parts of the name element that combine with other parts to form the element as a whole. For example, the components of the name LIDMAN-SUN are LIDMAN and SUN and the components of Mary Jane are Mary and Jane. Components have the following features: <ul style="list-style-type: none"> Family Name components must consist of UPPERCASE alphabetic characters only, for example, SMITH. Multiple Family Name components must be separated by a hyphen or a single space, for example, LIDMAN-SUN-DEWAR or EVANS WEST. Given Name components must display in title case, for example, Nadejda. Multiple Given Name components must be separated by a hyphen or a single space, for example, Anne-Jorun, Nis Bank. 	Mandatory
NID-0013	The display should allow word wrapping to occur in instances where the field length exceeds the width allocated to it on the form. If word wrapping occurs, it should be applied only at the end of a whole field element or at the end of a field element component, if it comprises multiple parts (for example, Middle name(s) field).	Recommended
NID-0062	By default, include a prompt in the input boxes to indicate to a user the information required	Recommended
NID-0063	Present the default prompt in an occluded form to prevent confusion with actual data input by a user	Recommended
NID-0064	Remove the default prompt when a user begins to input data	Mandatory

Table 2: General Guidance for the Use of Patient Name Input Controls

2.1.2 Examples of Correct Usage

Usage	Format	Examples	Comments
✓	Family Name, Given Name (Title)	TREETAWTCHAIWONG, Lertchai (Sir) OLIVER, James (Mr) RUTH, Anne (Mrs)	Use this format to display all Patient Names within a patient banner.

Table 3: How to Use the Design Guide Entry

2.1.3 Examples of Incorrect Usage

Usage	Format	Examples	Comments
✗	Family Name Given Name Title	Duke James Earl Oliver Sir	This example does not separate any of the name elements, which contain multiple components. It is impossible to determine the Family Name, Given Name and Title.
✗	Family Name Given Name	Ruth Jacob	This example does not distinguish the Given Name from the Family Name or provide a Title, making it difficult to determine Given Name, Family Name and correct form of address.

Usage	Format	Examples	Comments
x	Family Name Given Name (Title)	James Oliver Jones (Sir) Ito Shu (Mr) Sario Esko (Mrs)	These examples do not separate the Given Name from Family Name, making it difficult to determine what the Given and Family Names actually are.
x	Title Family Name Family Name (Title)	Mr Oliver Oliver (Mr)	These examples omit a Given Name element. Without a Given Name, identification is difficult.
x	Title Given Name Given Name (Title)	Mrs Ruth Ruth (Mrs)	These examples omit a Family Name element. Without a Family Name, identification is difficult.
x	Family Name, Given Name (Title) Given Name, Family Name (Title)	JAMES, OLIVER (SIR) James, Oliver (Sir)	These examples show all elements in the same case making it difficult to visually separate Given and Family Name elements. The comma, however, provides a visual cue that Family Name appears first.
x	Family Name, Given Name, Initials, Suffix (Title)	OLIVER, James Earl, E, MBE MSc BSc (Sir)	This example shows too many name elements, which hinder rather than aid clarity.
x	Family Name, Given Name	CHARLIE, Oliver	This example shows only a Given and Family Name. It does not give enough information for a Title to be assumed.
x	Family Name, Given Name Title	TREETAWTCHAIWONG, Lertchai Sir	This example shows a lack of clarity. It is unclear if the Given Name contains two name components or if the second component is actually the Title.
x	Family Name, GIVENNAME (Title)	TREETAWTCHAIWONG, LERTCHAI (SIR) RUTH, JACOB (MRS)	These examples are provided in all uppercase, making them difficult to read.

Table 4: How Not to Use the Design Guide Entry

2.1.4 Rationale

This recommendation provides the following benefits:

- Conforms to the person title display guidance and maximum field sizes given in the UK Government Data Standards Catalogue (GDSC)¹.
- Conforms with the proposed UK National ID card, which uses the construct of Family Name first, with Family Name provided in uppercase
- Ensures a consistent visual representation for Patient Name within the patient banner across clinical applications.
- Provides a clear and readable format.

¹ Cabinet Office: UK Government Data Standards Catalogue {R3}:
<http://www.govtalk.gov.uk/gdsc/html/noframes/PersonName-1-1-Release.htm>

- Identifies clearly and uniquely each of the name elements (Family Name, Given Name and Title).
- Promotes patient safety by enabling doctors, clinicians, health professionals and non-clinical staff to read patients' names quickly and accurately.

The recommended layout for Patient Name provides the best format because it lends itself to consistency and clarity, with a clear distinction between individual name elements. This increases patient safety by minimizing the potential for reading error and providing accurate confirmation of the patient's identity.

The recommended layout achieves this through:

- Presentation of the Family Name in all uppercase to clearly distinguish it from the Given Name.
- Separation of the Family Name and Given Name using a comma to further establish that the Family Name is placed first.
- Inclusion of parentheses around the Title to separate and distinguish it from the other name elements.

2.1.4.1 Accessibility

The recommended format for the Patient Name display should present no barriers to accessibility.

Consistent adherence to the Patient Name display format aids accessibility as it makes the name elements (Family Name, Given Name and Title) uniquely identifiable and recognizable whenever they are encountered; both individually, and as part of the entire name. It also makes the name elements distinguishable from other elements. From an accessibility perspective, this means that even when the name is accessed out of context (for example, by a screen reader), it will still be easily recognizable as a name, and that each element of that name can easily be identified. Using distinct name elements in this way also means that users with imperfect vision will still be able to correctly identify them.

Screen reader software cannot pronounce highly variable items, such as names, accurately on all occasions. This however should not present any interpretation problems, as each of the name elements will be identifiable and recognizable by consistent use. If pronunciation by the screen reader causes problems, the user can spell out the name, letter by letter, using features of the screen reader software.

The Family Name element is presented in all uppercase letters. It is widely recognised that this decreases reading speed for all users, but it can cause particular problems for people with reading difficulties such as Dyslexia. Despite this, displaying the Family Name element in all uppercase is unlikely to present any accessibility problems or reading issues, for the following reasons:

- The decrease in reading speed caused by all uppercase letters is due to a disruption of the recognition of whole word pattern, which occurs naturally for familiar words when seen using the mixed case representation. Since Family Names are highly variable and many are unusual, they do not fall into the category of known and familiar words, and so will not be affected.
- Difficulties with reading uppercase letters only occur when it is used extensively. The Family Name element is usually relatively short.

As the Family Name is a vital element for patient identification, any slight reduction in reading speed would actually be seen to confer an advantage. The clinician will be more likely to interpret the name correctly, rather than make mistakes caused by false recognition.

2.1.4.2 Existing Standards

Existing standards for person name display are limited. Government standards focus primarily on the structure of a name, but not on the visual display of the structure. As such, these have been of limited use for defining recommendations.

The following sources (as described in more detail below) provide recommendations in relation to name display:

- UK NPSA standards for naming and identifying patients (*Right patient – right care {R1}* and *Standardising wristbands improves patient safety {R2}*).
- UK Government Data Standards (GDSC)
- Various Public Sector organizations
- Academic research

UK NPSA Standardising Wristbands Improves Patient Safety

The Safer Practice Notice no.24, published 3 July 2007, sets out actions for the UK NHS when using patient wristbands including the core identifiers required on wristbands. From 18 July 2008 the patient name descriptors to be used on wristbands are as follows:

- **Last name**
- **First name**

UK Government Data Standards Catalogue (GDSC) {R3}

The GDSC defines a data storage standard for name elements as follows:

- **Person Title (35 Characters)** – Title in the recommendation
- **Person Given name (35 Characters)** – Given name in the recommendation.
- **Person Family name (35 Characters)** – Family name in the recommendation

The UK GDSC also specifies that while the full available range of generally recognized titles is permitted, if any of these titles are used, the value must conform to the specified format, which is an appropriate abbreviated form with no full stop.

Public Sector Organisations

Name identifiers exist within certain UK public sectors, for example, Passport, National ID card, Driving Licence and Proof of Age ID. There is a lack of consistency across the display standard for these identifiers; however, they all use uppercase letters for the Family name element. This is therefore a common convention that supports our recommendations.

- The National ID card shows a person's name as '**FAMILY NAME Given name**'
- The Passport card shows a person's name as '**FAMILY NAME GIVEN NAME**' (displayed on separate lines)
- The Driving Licence Card shows a person's name as '**FAMILY NAME GIVEN NAME MIDDLE NAMES**' (with **FAMILY NAME** appearing first on a separate line)
- The Proof of ID card shows a person's name as '**GIVEN NAME FAMILY NAME**' (displayed on separate lines)

Public sector organizations have many examples of name layouts for forms and lists. These do not show consistency or definitive 'common practice'. However, most telephone directories (online or printed) and CRM databases list Family name first (see BT[®] directory services online²).

² BT: The Phone Book {R4}: <http://www.thephonebook.bt.com/publisha.content/en/search/residential/search.publisha>

Academic Research

There are some academic studies and written recommendations on the subject of reading patterns and pattern recognition. In general, these studies conclude that there are benefits for consistent representation of data in a recognized pattern, as this enhances familiarity and recognition of component parts. The Developing Quality Technical Information handbook by IBM® (2nd Edition) **{R6}** is one such source.

Existing standards for person name display are limited, and no definitive ‘common practice’ or consistency exists. The recommendation for Patient Name display across NHS clinical applications is therefore based on usability research, readability principles and the need for consistency, clarity and easy identification of the patient.

This recommendation was adopted on the basis of the following justifications:

- Promotion of patient safety by presenting the name in a clear and consistent format that allows the clinician to quickly identify the patient
- Use of an easily readable format
- Provision of a clear distinction of the elements that are most important for identification and formal communication, that is, Given name, Family name and Title

2.1.5 Optional Data Fields

This section gives the rationale behind the inclusion of the optional data fields.

Note

The optional data fields described in this section are not exclusive. It is acknowledged that from time to time other Patient Name fields may be required. As such circumstances cannot be anticipated, this document provides no specific guidelines. It is up to the applications developer concerned to design an appropriate solution, ensuring that there is no compromise of patient safety.

Preferred Name also known as ‘nickname’ (Alias, Known As or Requested Name)

The UK GDSC includes a Person Requested Name as an element of the Person Name, which is defined as “*The name a person wishes to use which is different from the values in Title, Given name(s), Family name and Name Suffix fields*”. This would include, for example, a preference to be addressed by middle name rather than Given Name.

Where the Preferred name is a name ‘type’ (for example, a desired alias consisting of the minimum data set for a Name) it should be displayed as a full name display control without needing a separate field in an existing data set. However, where the value is more a single Nickname, it can be attached to an existing name control as an optional field, for example, ‘Johnny-Boy’.

Suffixes

In most cases, the suffix is not needed as it does not serve as a primary means of identifying or addressing the patient and can quickly become too long, taking up valuable space in locations such as the banner (for example, Rt Hon. John Doe, K.G., K.B.E., M.B., B.Chir). The inclusion of such unnecessary data on screen only serves to distract from the important data there.

However, there are times when the use of a suffix is important:

- When relevant for patient identification (for example, ‘Jnr’ or ‘the third (III)’)
- When related to the correct, formal way to set out a name (for example, in a letter)

Although a minimal requirement, this demonstrates a need for the optional use of a suffix. The presence of a check box to select a) “show on screen” or b) “use on letterhead” provides a user with the ability to use where appropriate.

Middle Names and Initials

It is considered that middle name or initials are not often required as they:

- Do not serve as a primary means for identifying or addressing the patient
- May distract from quickly identifying the key name elements
- May result in the Patient Name becoming overlong

However, they do need to be entered, where known, in the event that the primary identifiers are not sufficient to produce a unique match.

2.2 Patient Name Input Data Elements

A Patient Name input control can consist of up to six constituent fields with labels; Title, Family Name, Given Name, Middle name, Suffix, and Preferred name. The minimum data required to make the name useful is considered to be Title, Family Name and Given Name. Middle name(s), Preferred name and Suffix are considered to improve data quality, however they are not mandatory.

2.2.1 Title

The Title field is designed as a drop-down combo-box (as shown in Figure 5). This design allows the developer to assist the user in the input of a pre-defined set from a drop-down list, whilst also allowing the flexibility of free-text input to augment the complex list of possible options.

Figure 5 displays a Patient Name input control in a default state (for example, an InForm design with prompts and no data entered). Figure 6 displays the Title input element during a simple interaction.

Figure 5: Example of an InForm Design (All Six Fields are Visible)

Figure 6: Example of an InForm Design with Title Drop-Down Clicked

The input box should allow a maximum of 35 characters in order to support the recognized data entry requirements. The minimum width of the input box should be decided in accordance with the maximum length of the presets available in the drop-down box but should never be less than four characters (due to a standard requirement being to enter 'Miss').

2.2.1.1 Guidance

ID	Guideline	Status
NID-0014	Input control must allow a maximum of 35 characters.	Mandatory
NID-0015	Minimum visual width of the input box must display four characters.	Mandatory
NID-0016	Suggested values are: <ul style="list-style-type: none"> ▪ 'Mr'/'Mrs' ▪ 'Ms' ▪ 'Dr' ▪ 'Rev' ▪ 'Sir' ▪ 'Lady' ▪ 'Lord' ▪ 'Dame' ▪ 'Other...' 	Recommended
NID-0017	One value should allow the user to invoke free-text input mode (for example 'Other...' in the illustrations).	Recommended
NID-0018	Input box should contain a relevant prompt, for example, Mr.	Recommended
NID-0019	Input control should be in the form of a drop-down combo-box.	Recommended

Table 5: Guidance for the Use of Title in Patient Name Input Controls

2.2.1.2 Other Usage Step-Through of Title Input

The last item in the list indicates that free-text entry is possible and therefore assists the user in finding this functionality should they require it (for example, 'Other...'). The suggested location is at the end of the list because the user has searched the other options and not found what they are looking for.

Figure 7, Figure 8 and Figure 9 display this user behaviour in sequential stages:

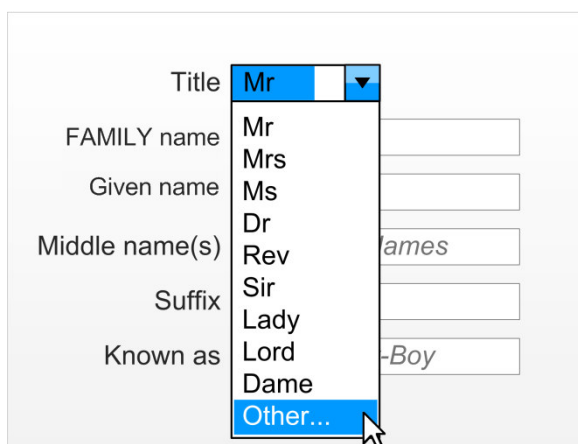


Figure 7: Example of where the User Chooses the Other Choice

Please enter your details

Title

FAMILY name

Given name

Middle name(s)

Suffix

Known as

Figure 8: Example of where Focus is Placed Back in the Free-text Entry Box

Please enter your details

Title

FAMILY name

Given name

Middle name(s)

Suffix

Known as

Figure 9: Example of where the User Enters a Non-Preset Value

2.2.2 Family Name

The Family Name input is in the form of a free-text entry box that accepts a maximum of 35 characters. Based upon average name length calculations, it is recommended that the width of the box should never display less than eight characters and should have an optimal display length of 14 characters. At the optimal length, the box should be able to display over 99% of expected values and even at the minimum length, it is expected that over 95% of names will be fully displayed. The Family Name will be entered in the case chosen by the user (as they enter it), however, when the entered value is displayed, it will all be in uppercase.

Figure 10 contains two examples of a user entering the Family Name in varieties of lowercase and uppercase. Figure 11 demonstrates that the control will reformat the data consistently to uppercase, when focus leaves the input field.

Figure 10 shows two side-by-side forms titled "Please enter your details". Each form has a "Title" dropdown menu set to "Mrs". The "FAMILY name" field in the left form contains "winstanley" in lowercase, while the right form contains "WinStanley" in mixed case. The other fields are: "Given name" (e.g. John), "Middle name(s)" (e.g. David James), "Suffix" (e.g. Junior), and "Known as" (e.g. Johnny-Boy).

Figure 10: Two Examples of Users Entering Family Name in the Case they Believe is Most Appropriate

Figure 11 shows a single form titled "Please enter your details". The "Title" dropdown is set to "Mrs". The "FAMILY name" field contains "WINSTANLEY" in uppercase. A mouse cursor is positioned over the "FAMILY name" field. The other fields are: "Given name" (e.g. John), "Middle name(s)" (e.g. David James), "Suffix" (e.g. Junior), and "Known as" (e.g. Johnny-Boy).

Figure 11: When the User moves to the Next Cell the Family Name Displays in Uppercase

2.2.2.1 Guidance

ID	Guideline	Status
NID-0020	Family Name input must be via a free-text entry box.	Mandatory
NID-0021	Family Name input box must accept a maximum of 35 characters.	Mandatory
NID-0022	Family Name input box should be capable of displaying a minimum of eight characters without occlusion.	Recommended
NID-0023	Family Name input box should optimally display 14 characters without occlusion.	Recommended
NID-0024	Family Name input box should contain a relevant prompt in its default state (for example, 'e.g. SMITH') in occluded form.	Recommended
NID-0025	When displaying a Family Name value, the characters should all be in uppercase.	Recommended

Table 6: Guidance for the Use of Family Name in Patient Name Input Controls

2.2.3 Given Name

The Given Name input is in the form of a free-text entry box that accepts a maximum of 35 characters. Based upon average UK name length calculations, it is recommended that the box be wide enough to display at least eight characters and should have an optimal width of 14 characters. At this optimal width, the box would be able to fully display over 99% of expected values. At the minimum width, it is expected that over 95% will be fully displayed. The Given Name will be entered in the case chosen by the user (as they enter it), however, when the value is displayed, the first character will be in uppercase.

2.2.3.1 Guidance

ID	Guideline	Status
NID-0026	Given Name input must be via a free-text entry box.	Mandatory
NID-0027	Given Name input box must accept a maximum of 35 characters.	Mandatory
NID-0028	Given Name input box should be capable of displaying a minimum of eight characters without occlusion.	Recommended
NID-0029	Given Name input box should optimally display 14 characters without occlusion.	Recommended
NID-0030	Given Name input box should contain a relevant prompt in its default state (for example, 'e.g. John') in occluded form.	Recommended
NID-0031	When displaying a Given Name value the first character should be in uppercase.	Recommended

Table 7: Guidance for the Use of Given Name in Patient Name Input Controls

2.2.4 Middle Name(s)

The Middle name input is in the form of a free-text entry box that accepts a maximum of 100 characters. This length has been chosen due to the requirement for this input to accept multiple entries. This maximum allows a significant number of entries (at least 18 of our standard 7-character Given Names) to be entered. The Middle name will be entered and displayed in the case chosen by the user (as they enter it).

2.2.4.1 Guidance

ID	Guideline	Status
NID-0032	Middle name input must be via a free-text entry box.	Mandatory
NID-0033	Middle name input box must accept a maximum of 100 characters.	Mandatory
NID-0034	Middle name input box should be capable of displaying a minimum of eight characters without occlusion.	Recommended
NID-0035	Middle name input box should optimally display 7 characters without occlusion.	Recommended
NID-0036	Middle name input box should contain a relevant prompt in its default state (for example, 'e.g. David James') in occluded form.	Recommended

Table 8: Guidance for the Use of Middle Name(s) in Patient Name Input Controls

2.2.5 Suffix

The Suffix input is in the form of a free-text entry box that accepts a maximum of 35 characters. There are fewer mandatory requirements for this field because it is rarely used. The entry box should be wide enough to display at least eight characters. The Suffix will be entered and displayed in the case chosen by the user (as they enter it).

2.2.5.1 Guidance

ID	Guideline	Status
NID-0037	Suffix input must be via a free-text entry box.	Mandatory
NID-0038	Suffix input box must accept a maximum of 35 characters.	Mandatory
NID-0039	Suffix input box should be capable of displaying a minimum of eight characters without occlusion.	Recommended
NID-0040	Suffix input box should optimally display 14 characters without occlusion.	Recommended
NID-0041	Suffix input box should contain a relevant prompt when in its default state (for example, 'e.g. Junior') in occluded form.	Recommended

Table 9: Guidance for the Use of Suffix in Patient Name Input Controls

2.2.6 Preferred Name

The Preferred name input is in the form of a free-text entry box that accepts a maximum of 35 characters. The box should be wide enough to display at least eight characters and should have an optimal width of 14 characters. The Preferred name will be entered and displayed in the case chosen by the user (as they enter it).

2.2.6.1 Guidance

ID	Guideline	Status
NID-0042	Preferred name input must be via a free-text entry box.	Mandatory
NID-0043	Preferred name input box must accept a maximum of 35 characters.	Mandatory
NID-0044	Preferred name input box should be capable of displaying a minimum of eight characters without occlusion.	Recommended
NID-0045	Preferred name input box should optimally display 14 characters without occlusion.	Recommended
NID-0046	Preferred name input box should contain a relevant prompt in its default state (for example, 'e.g. Johnny-Boy') in occluded form.	Recommended

Table 10: Guidance for the Use of Preferred Name in Patient Name Input Controls

2.2.7 Examples of Correct Usage

Usage	Format	Examples	Comments
✓	Title to accept 35 characters	'abcdefghijklmnopqrstuvwxyABCDEFGH'I'	Required data length for PDS.
✓	Family Name to accept 35 characters	'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMN'	Required data length for PDS.
✓	Given Name to accept 35 characters	'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMN'	Required data length for PDS.
✓	Middle name(s) to accept 100 characters	'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ'	Suggested length to allow for multiple middle names to be entered.
✓	Suffix to accept 35 characters	'abcdefghijklmnopqrstuvwxyABCDEFGH'I'	Required data length for PDS.

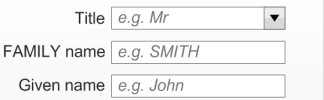
Usage	Format	Examples	Comments
✓	Preferred name to accept 35 characters	'abcdefghijklmnopqrstuvwxyABCDEFGH'	Suggested field length for a single nickname style entry. Note A desired full name comes under a name type rather than name field.
✓	Minimum data set of: Title, Family Name, and Given Name		This data set has been identified as the minimum required to ensure data quality.

Table 11: Examples of Correct Implementation of Patient Name Guidance

2.2.8 Examples of Incorrect Usage



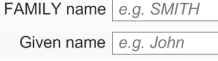

Usage	Format	Examples	Comments
✗	Input fields do not display the majority (over 95%) of inputs, as required		The controls will display during and probably after input. Errors could occur in data recognition and input if the user cannot view the full input values.
✗	Input fields do not accept the required input characters (for example, 35 characters for Family Name)		Many different systems and recognized bodies have defined the maximum limits required for each field that is part of a name. These limits need to be supported in order for systems to work together.
✗	Input control does not control all three fields for the minimum data set (Title, Family Name, and Given Name)		Not including all of the minimum data set in an input control could compromise patient safety and data quality.
✗	Title drop-down does not have an option to encourage the user to enter a different entry, if a more applicable one is not in the list		The user should be encouraged to give the best quality of data available. They may not know that free-text entry is possible if an alternative option (for example, 'Other') is not in the list, and simply pick the most applicable one there.

Table 12: Examples of Incorrect Implementation of Patient Name Guidance

2.2.9 Rationale

The lengths of the input values for the Title, Family Name, Given Name and Suffix input fields have been calculated based upon the rationale outlined in the Patient Name display requirements in section 2.1.4. The length of the Middle name(s) input field is a suggestion based upon the requirement for multiple name entries into this field. The length of the Preferred name is based upon the requirement to display a single nickname rather than a full name comprised of multiple elements.

The suggested lengths of the input boxes are based on the usability heuristic³ stating that each “text field should be large enough to accommodate the majority of anticipated entries without scrolling”. The expected values were assessed and applied to the default length size. The minimum sizes took this requirement but also looked at the requirement to restrict the control footprint (space used on a screen) due to factors outside of the control (for example, restricted space on a form).

2.2.10 Mandatory and Optional fields

The minimum data set required to safely input a complete patient-safe name is as follows:

- Family Name
- Given Name

The following fields are optional:

- Title
- Middles name(s)
- Suffix
- Preferred name

2.3 InForm Input Design

The InForm layout is considered the most desirable layout from a patient safety and usability perspective. It should therefore be the default choice for the ISV when developing a Patient Name input control. Figure 12 displays a typical InForm style input control (with all six input fields):

Title	<input type="text" value="e.g. Mr"/>
FAMILY name	<input type="text" value="e.g. SMITH"/>
Given name	<input type="text" value="e.g. John"/>
Middle name(s)	<input type="text" value="e.g. David James"/>
Suffix	<input type="text" value="e.g. Junior"/>
Known as	<input type="text" value="e.g. Johnny-Boy"/>

Figure 12: Example of an InForm Design (All Six Fields Are Visible)

³ International Organization for Standardization (ISO): BS EN ISO 9241-17:1998 Incorporating Amendment No. 1 {R5}: http://www.iso.org/iso/catalogue/catalogue_tc/catalogue_detail.htm?csnumber=16889

2.3.1 Guidance

ID	Guideline	Status
NID-0047	InForm field controls must be aligned on the left edge of the input boxes.	Mandatory
NID-0048	InForm field controls (where they exist) must be placed underneath each other in the following order: <ul style="list-style-type: none"> ▪ Title ▪ Family Name ▪ Given Name ▪ Middle name(s) ▪ Suffix ▪ Known as 	Mandatory

Table 13: Guidance for the Use of InForm Design in Patient Name Input Controls

2.3.2 Examples of Correct Usage

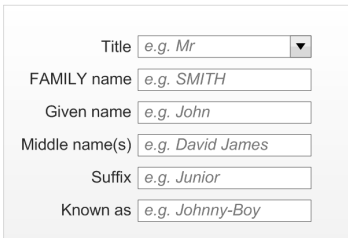
Usage	Format	Examples	Comments
✓	All input fields are left aligned underneath each other in the specified order		The InForm control is reported by users to be the preferred design for readability, usability, and familiarity purposes.

Table 14: Correct Patient Name Input InForm Design Examples

2.3.3 Examples of Incorrect Usage

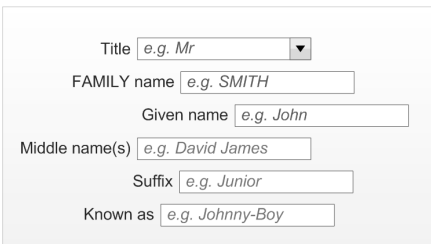
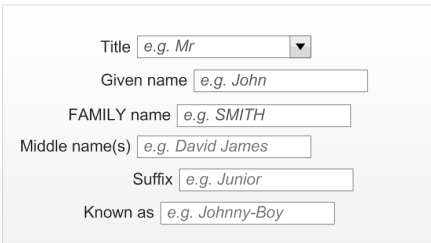
Usage	Format	Examples	Comments
✗	Fields are not left aligned to each other		Left aligning the controls aids readability for the user. Not left aligning them makes the control difficult to use and understand.
✗	Fields not in the correct order		The order of the fields should reflect the display and not contradict it. Errors will occur if they are different.

Table 15: Incorrect Patient Name Input InForm Design Examples

2.3.4 Rationale

This control allows the user to input a person name in its constituent parts. It is designed to increase patient safety by encouraging data quality as much as is practicable without losing flexibility.

Each individual part is referred to as a field. The minimum data set constitutes those fields that are required to safely identify a patient. The remaining fields can optionally be present in the control (for example, the developer can choose which fields they wish to use).

The InForm design is considered to be the most desirable for a majority of users due to familiarity and readability. It should therefore be the first choice of a designer.

2.4 InLine Input Design

The InLine style design has the same fields as the InForm control but they are arranged horizontally rather than vertically. Figure 13 displays a typical InLine style control (with all six input fields included). Figure 14 displays how the control should wrap at whole elements, when necessary, and that subsequent rows should align to the left edge of the first input field.

Figure 13: Example of an InLine Design (With All Six Fields Visible)

Figure 14: Example of an InLine Design Wrapped onto Two Lines (With All Six Fields Visible)

2.4.1 Wrapping Behaviour

The inline control should follow the wrapping behaviour illustrated in Figure 15. The basic principles are:

- Wrap at whole fields
- Sentence style wrapping (for example, no alignment other than subsequent lines start at the same point horizontally as the first item in the first line, therefore they are left aligned)

Figure 15 shows five examples of in-line wrapping behavior for patient name input controls. Each example is a light gray box containing several input fields. The fields are arranged in a grid-like fashion, with some fields wrapping onto multiple lines. The examples show different combinations of visible fields and their wrapping behavior.

Figure 15: Examples of InLine Wrapping Behaviour (All Six Input Fields are Visible)

2.4.2 Guidance

ID	Guideline	Status
NID-0049	Ensure wrapping only occurs on whole fields.	Mandatory
NID-0050	Correct presentation order is: <ul style="list-style-type: none"> ■ Title ■ Family Name ■ Given Name ■ Middle name(s) ■ Suffix ■ Known as 	Mandatory
NID-0051	InLine design choice should only be used when InForm has been considered undesirable.	Recommended

Table 16: Guidance for the Use of InLine Design in Patient Name Input Controls

2.4.3 Examples of Correct Usage

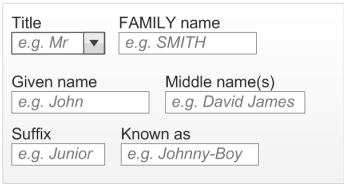
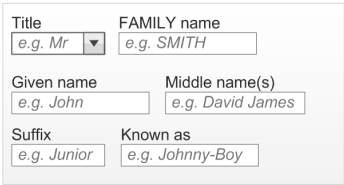
Usage	Format	Examples	Comments
✓	Field input controls only wrapped at dividing space		Fields must not be broken because this can lead to errors in reading the values and understanding the control.
✓	Fields in correct order, to reinforce display format		The user will assume the input and display formats will be identical and changing these orders can lead to input error from the user.

Table 17: Correct Patient Name Input Wrapping and Order Examples

2.4.4 Examples of Incorrect Usage


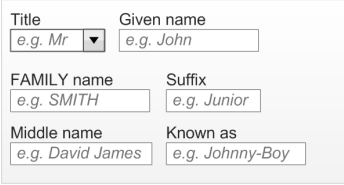
Usage	Format	Examples	Comments
✗	Fields broken across a field		Fields must remain intact to assist the user in understanding the control and the data.
✗	Fields in wrong order		The order of the control input should assist the user in understanding how it will be displayed, therefore not confusing the user as to the order, for example, Family Name then Given Name.

Table 18: Incorrect Patient Name Input Wrapping and Order Examples

2.4.5 Rationale

This control allows the user to input a person name in its constituent parts. It is designed to increase patient safety by encouraging data quality as much as is practicable without losing flexibility.

The InLine style should be seen as the second choice for an ISV, when the InForm design has been considered undesirable for a particular form design due to factors such as space and precedent.

2.5 Instructional Text

This section explains the instructional text assistance to be considered when constructing the input controls.

2.5.1 Field Labels

Each field used to make up the name input control must have a label associated with it to inform the user what is required of them. The location of these labels are related to the layout style of the input control selected by the developer and are displayed in Figure 16 and Figure 17.



Figure 16: Example of a Label (Title) for a Field in the InForm Style

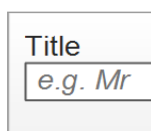


Figure 17: Example of a Label (Title) for a Field in the InLine Style

These are the recommended field labels:

- **Title:** "Title"
- **Family Name:** "Family Name"
- **Given Name:** "Given Name"
- **Middle name:** "Middle name(s)"
- **Suffix:** "Suffix"
- **Preferred name:** "Known as"

2.5.1.1 Guidance

ID	Guideline	Status
NID-0052	Each field in a name input control must have an associated label.	Mandatory
NID-0053	Labels must be programmatically linked to their associated input field.	Mandatory
NID-0054	Label values should be: <ul style="list-style-type: none"> ■ Title: "Title" ■ Family Name: "Family Name" ■ Given Name: "Given Name" ■ Middle name: "Middle name(s)" ■ Suffix: "Suffix" ■ Preferred name: "Known as" 	Recommended

Table 19: Guidance for the Use of Field Labels in Patient Name Input Controls

2.5.1.2 Examples of Correct Usage

Usage	Format	Examples	Comments
✓	Correct labelling	Title <input type="text" value="e.g. Mr"/> FAMILY name <input type="text" value="e.g. SMITH"/> Given name <input type="text" value="e.g. John"/>	Labels are correct for the field associated to them.

Table 20: Correct Patient Name Input Control Label Formatting Examples

2.5.1.3 Examples of Incorrect Usage

Usage	Format	Examples	Comments
✗	No label for the different input fields	<input type="text" value="e.g. Mr"/> <input type="text" value="e.g. SMITH"/> <input type="text" value="e.g. John"/>	Input controls with more than a single input field require the use of labels to ensure the user understands what is required.

Table 21: Incorrect Patient Name Input Control Label Formatting Examples

2.5.1.4 Rationale

Controls that consist of multiple input fields require clear labelling to assist the user in understanding what input is required and where.

The guidelines follow the UK NPSA standards for naming and identifying patients (*Right patient – right care {R1}*) and *Standardising wristbands improves patient safety {R2}*).

2.5.2 Prompts

The controls could utilize a 'prompt' style design to give the clearest indication to the user of what is expected in which input box, without increasing the screen footprint of the design. This is displayed in Figure 18. The prompts should be visible until data is placed inside the control (either by the user or a system). Some suggested default values are:

- **Title:** "e.g. Mr"
- **Family Name:** "e.g. SMITH"
- **Given Name:** "e.g. John"
- **Middle name(s):** "e.g. David James"
- **Suffix:** "e.g. Junior"
- **Known as:** "e.g. Johnny-Boy"

Title	FAMILY name	Given name	Middle name(s)	Suffix	Known as
<input type="text" value="e.g. Mr"/>	<input type="text" value="e.g. SMITH"/>	<input type="text" value="e.g. John"/>	<input type="text" value="e.g. David James"/>	<input type="text" value="e.g. Junior"/>	<input type="text" value="e.g. Johnny-Boy"/>

Figure 18: Example of an Input Control with Prompts

2.5.2.1 Guidance

ID	Guideline	Status
NID-0055	Each field in a name input control should have an associated prompt.	Recommended
NID-0056	Prompts for Family Name should be capitalized.	Recommended
NID-0057	All prompts except Family Name should have sentence style capitalization.	Recommended
NID-0058	Prompt values should be: <ul style="list-style-type: none"> ▪ Title: "e.g. Mr" ▪ Family Name: "e.g. SMITH" ▪ Given Name: "e.g. John" ▪ Middle name(s): "e.g. David James" ▪ Suffix: "e.g. Junior" ▪ Known as: "e.g. Johnny-Boy" 	Recommended
NID-0059	Prompts should be lighter in weight and colour than the input text, and italicized.	Recommended

Table 22: Guidance for the Use of Prompts in Patient Name Input Controls

2.5.2.2 Examples of Correct Usage

Usage	Format	Examples	Comments
✓	Each input field has an associated prompt		The prompt text reinforces the labels as instructional text for the user.
✓	Each prompt text is in a lighter colour and italicized		Prompts are of a lighter colour to inform the user that it is a prompt and not a valid data value.
✓	Each prompt text is italicized		The italicized format reinforces the fact that it is a prompt and not a valid data value.
✓	Family Name input field has the prompt capitalized		The capitalization of the Family Name prompt assists the user by reinforcing the Family Name format for display.
✓	Given Name has the prompt with the first letter capitalized		The prompts should reinforce the desired entry format and for the UK, an instance of a Given Name beginning with a lowercase letter has not been discovered.

Table 23: Correct Patient Name Input Control Prompt Formatting Examples

2.5.2.3 Examples of Incorrect Usage

Usage	Format	Examples	Comments
✘	Prompts are formatted like a real entry	Title <input type="text" value="e.g. Mr"/> FAMILY name <input type="text" value="e.g. SMITH"/> Given name <input type="text" value="e.g. John"/>	Users may incorrectly think that an entry has been made in the box.
✘	Family Name input field has the prompt not fully in uppercase	FAMILY name <input type="text" value="e.g. Smith"/>	Users are not informed as to the correct entry format of Family Name.
✘	Given Name does not have the prompt with the first letter in uppercase	Given name <input type="text" value="e.g. john"/>	Users are not informed as to the correct entry format of Given Name.

Table 24: Incorrect Patient Name Input Control Prompt Formatting Examples

2.5.3 Tooltips

The controls could use tooltips to give the user more verbose instructions than can be achieved in a prompt. Suggested default values are:

- **Title:** "Select a Title from the list or simply type in a different Title" (illustrated in Figure 19)
- **Family Name:** "Enter the person's Family Name (surname)"
- **Given Name:** "Enter the person's Given Name (forename or Christian name)"
- **Middle name(s):** "Enter the person's middle name(s)"
- **Suffix:** "Enter the person's suffix (e.g. 'Junior' or 'The Third')"
- **Known as:** "Enter the name a person likes to referred to as"

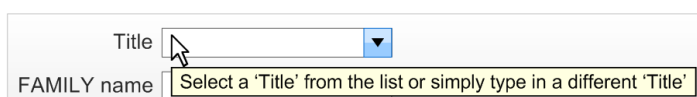


Figure 19: Example of a Tooltip Style Instructional Text

2.5.3.1 Guidance

ID	Guideline	Status
NID-0060	Each field in a name input control should have instructional text (for example, a tooltip).	Recommended
NID-0061	Tooltip values should be: <ul style="list-style-type: none"> ■ Title: "Select a Title from the list or simply type in a different Title" ■ Family Name: "Enter the person's Family Name (surname)" ■ Given Name: "Enter the person's Given Name (forename or Christian name)" ■ Middle name(s): "Enter the person's middle name(s)" ■ Suffix: "Enter the person's suffix name (e.g. 'Junior' or 'The Third')" ■ Known as: "Enter the name a person likes to referred to as" 	Recommended

Table 25: Guidance for the Use of Tooltips in Patient Name Input Controls

2.5.3.2 Examples of Correct Usage

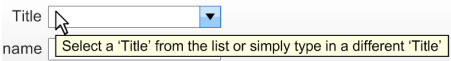
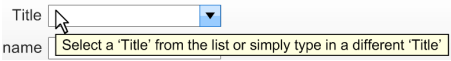
Usage	Format	Examples	Comments
✓	Standard tooltip presentation		Looks and behaves as a conventional tooltip.
✓	Recommended text used		Uses the recommended tooltip value.

Table 26: Correct Examples of Formatting Patient Name Input Control Tooltip

3 DOCUMENT INFORMATION

3.1 Terms and Abbreviations

Abbreviation	Definition
CUI	Common User Interface
GDSC	UK Government Data Standards Catalogue
ISO	International Organization for Standardization
ISV	Independent Software Vendor
NPSA	UK National Patient Safety Agency
PDA	Personal Digital Assistant
UI	User Interface

Table 27: Terms and Abbreviations

3.2 Nomenclature

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

3.2.1 Body Text

Text	Style
Code	Monospace
Script	
Other markup languages	
Interface dialog names	Bold
Field names	
Controls	
Folder names	title case
File names	

Table 28: Body Text Styles

3.2.2 Cross References

Reference	Style
Current document – sections	Section number only
Current document – figures/tables	Caption number only
Other project documents	<i>Italics</i> and possibly a footnote
Publicly available documents	<i>Italics</i> with a footnote
External Web-based content	<i>Italics</i> and a hyperlinked footnote

Table 29: Cross Reference Styles

3.3 References

Reference	Document	Version
R1.	NPSA, Right patient - right care http://www.npsa.nhs.uk/EasySiteWeb/GatewayLink.aspx?allid=3234	2004
R2.	NPSA Safer Practice Notice, Standardising wristbands improves patient safety http://www.npsa.nhs.uk/EasySiteWeb/GatewayLink.aspx?allid=5346	2007
R3.	Cabinet Office: UK Government Data Standards Catalogue: http://www.govtalk.gov.uk/gdsc/html/noframes/PersonName-1-1-Release.htm	
R4.	BT: The Phone Book: http://www.thephonebook.bt.com/publisha.content/en/search/residential/search.publisha	
R5.	International Organization for Standardization: BS EN ISO 9241-17:1998 Incorporating Amendment No. 1 http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=16889	2.0.0.0
R6.	Developing Quality Technical Information: A Handbook for Writers and Editors, IBM Press, ISBN: 0-13-147749-8	2 nd Edition

Table 30: References