

# Why is ISB 1077 Required?



In the UK, about 10% of inpatient episodes result in errors of some kind, of which half are preventable.

Of 8 million admissions to hospitals in England each year, more than 850,000 result in patient safety incidents which cost the NHS over £2 billion annually in extra hospital days.

GS1 Compliant wristbands and labels can be printed by selecting the CareMagic Print module

An average of 10,000 people suffer “serious harm” each year through misidentifying, misperscribing or wrong site surgery.



Study carried out at Charing Cross hospital found that patient ID checks were only being done 17% of the time. When bar-coded wrist bands were implemented they were checked 81% of the time.

Up to £900million of Nursing staff time wasted looking for assets, equipment, results etc per year

# ISB 1077 Explained

## Requirements of ISB 1077



1. With IMMEDIATE effect, all new identity band systems can demonstrate compliance to ISB 1077.

GS1 Compliant wristbands and labels can be printed by selecting the CareMagic Print module



2. From 1st April 2012 all NHS Trusts have established a clear migration plan to ensure existing systems comply by 1st October 2012.

3. From 1st October 2013 ALL identity bands in the NHS carry GS1 DataMatrix barcode.

## Purpose of ISB1077 Standard

How to encode NHS approved patient identifiers into GS1 Data Matrix Symbol

### **ISB 1077 Applies to:**

ALL Health care settings in England where an identity band is worn by a patient.

ALL healthcare IT/ System suppliers to the NHS in England that develop and implement systems which RESULT in the production of patient identity bands.



### **Specifications:**

Printing of the patient related data MUST conform to ISB 0099.

Systems which have been designed / configured to produce both NN4B / baby identity bands AND the Newborn Screening Blood Spot Care Label SHOULD be updated so the GS1 2D is printed on the identity band and the GS128 bar code containing the NHS number is printed on the Blood Spot Care Label.

NHS Organisations SHOULD NOT produce AIDC solutions unless they can demonstrate compliance with this standard.



### **Out of Scope:**

Display of human readable information.

OBS for Newborn Screening Blood Spot Card Label.

NHS Required patient identifiers for identity bands These are mandated by NPSA standard ISB1099.

RFID.

Bar coding of Blood and Blood products Tracking.

Bar coding of medical records tracking and document management.

Any of the business processes that adoption of this standard will enable.

GS1 Compliant wristbands and labels can be printed by selecting the CareMagic Print module

## Requirements for 2D Barcode

| Field                                 | Description   |
|---------------------------------------|---|
| Patient Hospital Number               | The local hospital / PAS number for the individual patient  |
| GS1 Unique Organisation Number Prefix | A globally unique number assigned to a GS1 organisation; In this case the GS1 member is local NHS Trust/organisation. |
| Application Identifier                | Application Identifier (AI) 93 to indicate the following data string is for Patient Descriptive Data                  |
| Last Name                             | The patient's last / surname  |
| First Name                            | The patient's first / forename  |
| Date of Birth                         | The patient's date of birth   |
| Time of Birth                         | The patients time of birth (if a baby)  |
| Application Identifier                | Application Identifier (AI) 92 to indicate the following data string is for Baby Details                              |
| Number of Babies Indicator            | An identifier indicating number of babies born and their rank   |
| Baby of (Last Name)                   | The baby's mother's last / surname  |
| Baby of (First Name)                  | The baby's mother's first / forename  |

**FORMAT of the AIDC for Patient Identification Data String**

| AI                       | 8018                                       | n4          | Fixed    |
|--------------------------|--|-------------|----------|
| GSRN                     | GS1 Unique Org Prefix                      | n7          | Fixed    |
| GSRN                     | NHS Number                                 | n10         | Fixed    |
| GSRN                     | Check Digit                                | n1          | Fixed    |
| AI                       | 91   | n2          | Variable |
| Hospital Identifiers     | Organisation Code                          | an3 or an 5 | Variable |
| Hospital Identifiers     | Patient Hospital Number                    | an10        | Variable |
| Hospital Identifiers     | GS1 Unique Organisation Prefix (NHS Trust) | n7          | Fixed    |
| AI                       | 93   | n2          | Variable |
| Patient Descriptive Data | Last Name                                  | an35        | Variable |
| Patient Descriptive Data | First Name                                 | an35        | Variable |
| Patient Descriptive Data | Data of Birth                              | an11        | Fixed    |
| Patient Descriptive Data | Time of Birth                              | an5         | Fixed    |
| AI                       | 92   | n2          | Variable |
| Baby Details             | Number of Babies Indicator                 | an3         | Fixed    |
| Baby Details             | Baby of (Last Name)                        | an35        | Variable |
| Baby Details             | Baby of (First Name)                       | an35        | Variable |

## Coding required in GS1 2D Data Matrix ( 1 )

| Description   | Data Format | Fixed or Variable | Permissible Values          | Mandatory Required or Optional |
|---|-------------|-------------------|-----------------------------|--------------------------------|
| GS1 Application Identifier code which identifies the following data element string.     | n4          | FIXED             | 8018 = GSRN                 | Mandatory                      |
| NHS Connecting for Health (NHS CFH)   | n7          | FIXED             | 5050898=NHS CFH             | Mandatory                      |
| The NHS Number , the primary identifier of a PERSON within the NHS in England and Wales | n10         | FIXED             | 1234567890                  | Required                       |
| A modulo 10 check digit for the GSRN string   | n1          | FIXED             |                             | Mandatory                      |
| GS1 Application Identifier code which identifies the following data element string.     | n2          | Variable          | 91=Hospital Identifiers     | Mandatory                      |
| This is the ORGANISATION CODE of the ORGANISATION acting as a Health Care Provider      | an3 or an5  | VARIABLE          |                             | Required                       |
| PAS Number  | an10        | VARIABLE          |                             | Required                       |
| The GS1 UK allocated unique prefix  | n8          | VARIABLE          |                             | Optional                       |
| GS1 Application Identifier code which identifies the following data element string.     | n2          | Variable          | 93=Patient Descriptive Data | Mandatory                      |
|   | an35        | VARIABLE          |                             | Required                       |
|   | an35        | VARIABLE          |                             | Required                       |
|   | an11        | FIXED             | 01-Feb-2012                 | Required                       |
|   | an5         | FIXED             | 15:30                       | Required                       |
| GS1 Application Identifier code which identifies the following data element string.     | n2          | Variable          | 92=Baby Details             | Required                       |
|   | an3         | FIXED             | 1/1 1/2                     | Required                       |
|   | an35        | VARIABLE          |                             | Required                       |
|   | an35        | VARIABLE          |                             | Optional                       |

## Coding required in GS1 2D Data Matrix ( 2 )

| Source             | PRINTED OUT                      | GS1 AI | Comments   |
|--------------------|----------------------------------|--------|--|
| GS1                |                                  | N/A    | Fixed value of 8018  |
| GS1                |                                  | 8018   | Fixed value of 5050898. The local organisation GS1 Company prefix MUST NOT be used   |
| NHS Data Directory | Yes but if No NHS No leave BLANK | 8018   | If the NHS Number is missing, invalid or unverified THEN set the value to 999999999 AND data elements 1.5 1.6 and 1.7 become MANATORY. IF the NHS Number is Not Known THEN the human readable form MUST be blank   |
| GS1                |                                  | 8018   | Data element as CSV. Ensures GSRN is correct. IF the NHS Number is not known set this value to 3   |
| GS1                |                                  | N/A    | Fixed value of 91.   |
| NHS Data Directory | Optional                         | 91     | Data element as CSV.   |
| NHS Data Directory | Optional                         | 91     | Data element as CSV.   |
| GS1                |                                  | 91     | Data element as CSV.   |
| GS1                |                                  | N/A    | Fixed value of 93. Data elements 2.1 to 2.4 are MANATORY for ALL patient wrist / identity bands. Data element 2.5 is required in that it becomes MANDATORY for neonates and newborn baby wrist / identify bands  |
|                    | Always                           | 93     | Data Element at CSV  |
|                    | Always                           | 93     | Data Element at CSV  |
|                    | Always                           | 93     | Data Element at CSV. For neonates and newborn babes the data element 2.5 MUST be encoded after, and printed next to) data element 2.4 "Data of Birth"  |
|                    | Always                           | 92     |  |
| GS1                |                                  | N/A    | Fixed value of 92 Data elements 3.2 and 3.3 are required in that they are MANDATORY for newborn babies in the absence of a valid and verified NHS number. If the NHS number is valid and verified THEN data elements 3.2 3.3 and 3.4 are OPTIONAL but highly recommended |
|                    | Optional based on NHS No         | 92     | The label RANK Must be user to the left of this data item  |
|                    | Optional based on NHS No         | 93     | Data Element at CSV  |
|                    | Optional based on NHS No         |        |  |

## Example 1

| Standard Identify Band - NHS Number Valid and Verified |   |
|--|---|
|  |   |
|  | (8018)50508987758581513(93)NDIAYE,Elom,02-Feb-1950,   |
|  |   |
|  | The patient is a female with a valid and verified NHS Number. The Trust does not require local information to be encoded and has not registered with GS1 for their GS1 Unique Organisation Prefix |
|  |   |
| (8018)   | AI GSRN   |
| 5050898  | GS1 Unique Organisation Prefix for NHS Connecting for Health  |
| 9775858131   | NHS Number including Check Digit  |
| 3  | GSRN Check Digit  |
| (93)   | AI Patient Descriptive Data   |
| NDIAYE   | Last Name   |
| Elom   | First Name  |
| 02-Feb-1960  | Date of Birth   |





## Example 2

| Standard Identify Band - NHS Number Valid and Verified and Local Hospital Identifiers |  |
|---|--|
|   |  |
|   | (8018)505089899900054513(91)RAN,567823,50897671,(93)PRITCHARD,Thomas,28-Apr-2005,  |
|   |  |
|   | The patient is an infant male with a valid NHS Number available. The Trust wishes to include local hospital information extracted directly from the PAS and the Trust's GS1 Unique Organisation Prefix (which is optional) |
|   |  |
| (8018)  | AI GSRN  |
| 5050898   | GS1 Unique Organisation Prefix for NHS Connecting for Health   |
| 9990005451  | NHS Number including Check Digit   |
| 3   | GSRN Check Digit   |
| (91)  | AI Hospital Identifiers  |
| RAN   | Organisation Code  |
| 567823  | Patient Hospital Number  |
| 50897671  | GS1 Unique Organisation Prefix for the NHS Trust   |
| (93)  | AI Patient Descriptive Data  |
| Pritchard   | Last Name  |
| Thomas  | First Name   |
| 28-Apr-2005   | Date of Birth  |

## Example 3

| Standard Identify Band - NHS Number NOT available / Invalid / Unverified |  |
|--|--|
|  |  |
|  | (8018)5050898999999999993(91)AD12,ABC123XZ,(93)O'D   |
|  |  |
|  | The patient is an adult female - NHS Number not available (or invalid or unverified). Therefore, the NHS Trust has used local hospital information extracted directly from the PAS. The Trust has not registered with GS1 yet to obtain their GS1 Unique Organisation Prefix (which is optional) |
|  |  |
| (8018)   | AI GSRN  |
| 5050898  | GS1 Unique Organisation Prefix for NHS Connecting for Health   |
| 9990005451   | NHS Number including Check Digit   |
| 3  | GSRN Check Digit   |
| (91)   | AI Hospital Identifiers  |
| RAN  | Organisation Code  |
| 567823   | Patient Hospital Number  |
| (93)   | AI Patient Descriptive Data  |
| Pritchard  | Last Name  |
| Thomas   | First Name   |
| 28-Apr-2005  | Date of Birth  |

## Example 4

| Baby Identity Band - Single Baby |  |
|----------------------------------|--|
|                                  |  |
|                                  | (8018)505089812345678908(91)BRI,987654A,50234510,(93)CHAPPELL,Emma,03-Aug-2011,07:33,(92)1/1,CHAPPELL,Ann,   |
|                                  |  |
|                                  | The patient is a one day old female single baby and has been registered with NN4B and therefore has a valid and verified NHS Number. The Trust wishes to include local hospital information extracted directly from the PAS and the Trust's GS1 Unique Organisation Prefix (which is optional) |
|                                  |  |
| (8018)                           | AI GSRN  |
| 5050898                          | GS1 Unique Organisation Prefix for NHS Connecting for Health   |
| 1234567890                       | NHS Number including Check Digit   |
| 8                                | GSRN Check Digit   |
| (91)                             | AI Hospital Identifiers  |
| BRI                              | Organisation Code  |
| 987654A                          | Patient Hospital Number  |
| 50234510                         | GS1 Unique Organisation Prefix for the NHS Trust   |
| (93)                             | AI Patient Descriptive Data  |
| CHAPPELL                         | Last Name  |
| Emma                             | First Name   |
| 03-Aug-2011                      | Date of Birth  |
| 07:33                            | Time of Birth  |
| (92)                             | AI Baby Details  |
| 1/1                              | Number of Babies Indicator   |
| CHAPPELL                         | Baby of (Last Name)  |
| Ann                              | Baby of (First Name)   |

## Example 4

| Baby Identity Band - More than One Baby |  |
|---|--|
|   | (8018)505089845055771041(91)R1A03,DM62438,50234510,(93)CHEUNG,Tao,03-Aug-2011,07:33,(92)2/3,CHEUNG,Chan,   |
|   | The patient is a one day old second baby of male triplets and has been registered with NN4B and therefore has a valid and verified NHS Number. The Trust wishes to include local hospital information extracted directly from the PAS and the Trust's GS1 Unique Organisation Prefix |
| (8018)                                  | AI GSRN  |
| 5050898                                 | GS1 Unique Organisation Prefix for NHS Connecting for  |
| 4505577104                              | NHS Number including Check Digit   |
| 1                                       | GSRN Check Digit   |
| (91)                                    | AI Hospital Identifiers  |
| R1A03                                   | Organisation Code  |
| DM62438                                 | Patient Hospital Number  |
| 50234510                                | GS1 Unique Organisation Prefix for the NHS Trust   |
| (93)                                    | AI Patient Descriptive Data  |
| CHEUNG                                  | Last Name  |
| Tao                                     | First Name   |
| 03-Aug-2011                             | Date of Birth  |
| 07:33                                   | Time of Birth  |
| (92)                                    | AI Baby Details  |
| 2/3                                     | Number of Babies Indicator   |
| CHEUNG                                  | Baby of (Last Name)  |
| Chan                                    | Baby of (First Name)   |