Sunderland Diabetes Network - Recommendations for safe prescribing of insulin.

Note:
High strength insulins and biosimilar insulins are for specialist initiation only. They should not be initiated in primary care. After initiation, they may need to be prescribed by GPs and this document provides guidance to support patient safety when they are prescribed and dispensed.
At the time of publication, high strength insulins, and biosimilar insulins are non-formulary products within Sunderland.

A number of new insulin products have recently become available:

- The first **biosimilar** insulin
- An increased number of **high strength** insulin products, containing 200 units/ml, 300units/ml or 500units/ml.
- Remember that standard strength comes as 100 units/ml
- A new injectable insulin combination product

This memo has recommendations for prescribing insulin to help reduce the risk of medication errors. Further information can be found in the regional guidance produced by NECS - *High Strength, Fixed Combination and Biosimilar Insulin Products: Minimising the Risk of Medication Error.*

Recommendations for ALL insulin prescribing

1. **Avoid hand-writing prescriptions for insulin**
   Computer generated prescriptions are standardised, clearer and therefore safer.

2. **Prescribe all insulins by brand name**
   This will ensure that a biosimilar product is not dispensed instead of the original product, and also help reduce the risk of an incorrect strength product being given.

3. **Prescribe the "right insulin, right strength, right device and right dose at the right time".**
   Include on the prescription:
   - Brand name followed by generic name
   - Insulin type
   - Insulin strength 100units/ml, 200units/ml, 300units/ml, 500units/ml
   - Device used (cartridge/pen/vial)
   - Dose – in units; with "units" written in full.
   - Time that dose is to be administered

   e.g. *Humulin I® 100units/ml 3ml cartridges. Dose 24 units at midday*

   e.*g. Lantus® Insulin Glargine 100units/ml 3ml solostar pen device. Dose 56 units at 22.00*

4. **Carefully check the strength of the insulin selected on the picking list of the clinical system.**

5. **For all new initiations of insulin, give the patient an insulin passport; and explain how to use it – see Appendix 1**

6. **Ensure that patients and carers are adequately informed about how to use their insulin**

7. **If the patient needs insulin to be administered by a district nurse, must write up the administration chart - including all details in point 3 above.**

8. **Refresh your knowledge about insulin safety**

Complete the free e-learning 'The Six Steps to Insulin Safety', recommended by Diabetes UK, and developed by the Primary Care Diabetes Society and TREND-UK. This is available to all healthcare professionals and aims to reduce insulin errors in clinical practice. Access at www.diabetesonthenet.com

Additional recommendations for HIGH STRENGTH insulins

1. **Always include the dose - in units of insulin, written in full as "units" – on the prescription**

2. **Ensure that you, and the patient, understand any dose conversion that is required when switching between standard and high strength insulin products**

3. **Tell patients that any insulin supplied in a pre-filled pen and should only be used with this device.**
   Healthcare professionals must never use a syringe to withdraw insulin from a pre-filled pen otherwise overdose can result.

4. **Tell patients to closely monitor their blood glucose levels when starting a high-strength insulin and in the weeks after**

High strength insulin products have been developed for patients with large daily insulin requirements. The product details are in the table below.

Brand name	Active substance	Strength	Administration devices	Formulary status
Humalog®	Insulin lispro	**200units/ml**	Kwikpen prefilled pen;	Non-formulary
		Also available as 100units/ml		*Green*
Tresiba®▼	Insulin degludec	200units/ml	FlexTouch prefilled pen;	Non-formulary
		Also available as 100units/ml		*Green +*
Toujeo®	Insulin glargine	300units/ml	SoloSTAR prefilled pen	Non-formulary
		Lantus is insulin glargine 100units/ml		*Green*

Dose
These products all are in a prefilled pen device to prevent extraction via syringe. Despite the strength being higher than the standard 100 units/ml – the dosing method is identical.
For Toujeo®, Tresiba® and Humalog® (all strengths):
The numerical value prescribed is the numerical value dialled up on the pen device.
The pens all have a window showing the number of units of insulin that will be administered

Switching between standard and high strength insulin products

Humalog® and Tresiba®
There is no need for dose conversion when transferring patients from standard to high strength versions of these insulins.

Toujeo®
Although Toujeo® (300units/ml) and Lantus® (100units/ml) both contain insulin glargine, the manufacturers state that they are **not** bioequivalent and **not** directly interchangeable. See manufacturer's summary of product characteristics for further information.

BIOSIMILAR insulins

A biosimilar medicine is a biological medicine that is similar, in terms of safety, efficacy and quality, to a medicine that has already been authorised to be marketed in the EU (the biological reference medicine)

Brand name	Active substance	Strength	Administration devices	Formulary status
Abasaglar® ▼	Insulin glargine	100units/ml	Kwikpen prefilled pen; cartridge for use in Lilly reusable pen	**Non-formulary**

Abasaglar is a biosimilar insulin glargine.
It has been shown to be equivalent to Lantus® in its pharmacokinetic and pharmacodynamics properties, however blood glucose should be closely monitored as some dose adjustment may be needed for some patients.

For further information see the manufacturer's summary of product characteristics.

Sunderland joint formulary – Checklist for safe dispensing of insulin.

Reinforce the benefits of carrying an insulin passport

- Ask the patient if they have an insulin passport (or an insulin credit card)
- Provide an insulin passport if not already in possession of one
- Encourage them to carry the passport and explain the benefits
- Check the patient's prescription against the insulin passport information and the product at the point of dispensing

General recommendations

- **All insulins should be prescribed by brand name**.
  Return any prescription that does not specify brand name to the prescriber.
- **Dose conversion -** If a patient is switching between different products – check whether a dose conversion is required, and whether this has been calculated correctly.

Ensuring that the patient receives the correct strength insulin product

- Be aware that several higher strength preparations of insulin i.e. 200units/ml and 300units/ml are available in addition to standard 100units/ml strength.
  Currently these are Humalog® (insulin lispro), Tresiba® (insulin degludec) or Toujeo® (insulin glargine).
  Challenge any prescription for these insulins that does <u>not</u> specify the strength, to establish what is required.
  Prescribers are being asked to include the strength of insulin on all insulin prescriptions, however it will take time to implement this.

Minimise the risk of picking errors

- Ensure that storage arrangements for high-strength insulins facilitate correct selection of the medicine
- Ensure that the electronic dispensing system allows clear differentiation between different strength insulins
- Carefully check the strength of insulin selected from the picking list on the electronic dispensing system
- Carefully check the strength of the insulin dispensed against the strength on the prescription and the patient's insulin passport

Ensure that patients can use their insulin product

- Ensure that patients have been trained on the use of any new insulin
- If different short and long-acting insulins are prescribed together, the differences in appearance and use between devices must be highlighted to the patient.
- Check that patients/carers are able to read the strength of the insulin and the dose counter of the pen device before dispensing
- Tell patients to closely monitor their blood sugar levels when starting a new insulin

Appendix 1 – Implementation of the NPSA insulin passport in Sunderland CCG

The National Patient Safety Agency (NPSA) advises that healthcare professionals who prescribe insulin must issue patients with a NPSA insulin passport and support them in its use and in keeping it up to date.

Information in the insulin passport

- details of the patient's insulin product(s) – including brand name and strength
- emergency information informing others that a patient has diabetes and injects insulin;
- information for others that tells them what to do if a patient is found ill or has lost consciousness;
- contact names and telephone numbers;
- other medication that the patient is using.

How the insulin passport should be used.

Patients should be asked to:

- Know the details of their insulin product(s) and to keep this information up-to date in their insulin passports;
- Carry their Insulin Passport with them so that the information is available in an emergency
- Show the insulin passport to health professionals to confirm details of their current insulin when they are collecting a prescription or their medicines dispensed from the pharmacy.
- Make sure that they receive the correct insulin product(s) by checking all prescriptions and dispensed insulin against the information in their Insulin Passport.
- Question any changes, as the names of insulin products can look and sound very similar and that can result in errors;
- Make sure that they know, and anyone administering insulin to them knows, the correct dose and frequency of their insulin therapy (this information is not included in the Insulin Passport);

The NPSA patient information booklet *'Diabetes: insulin, use it safely'* can be used to support patients in the use of the passport. It directs patients to show the Insulin Passport to healthcare professionals during the prescribing and dispensing process and provides further information for patients about safe use of insulin.

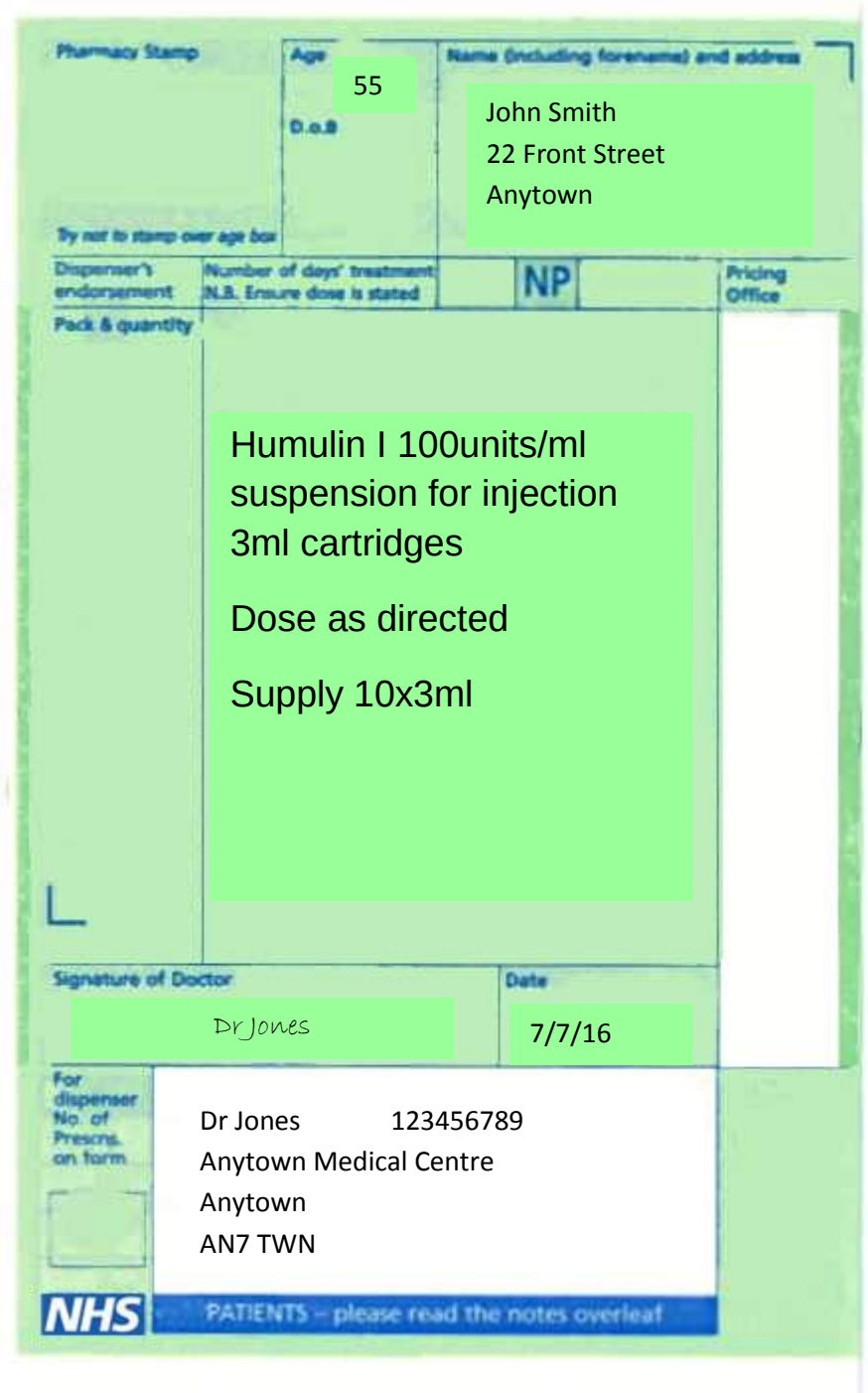
All health professionals are responsible for checking the information in the insulin passport before prescribing, dispensing or administering insulin.

Any discrepancies between the information held by the health professional and that in the insulin passport, must be reconciled before proceeding with prescribing, dispensing or administration.

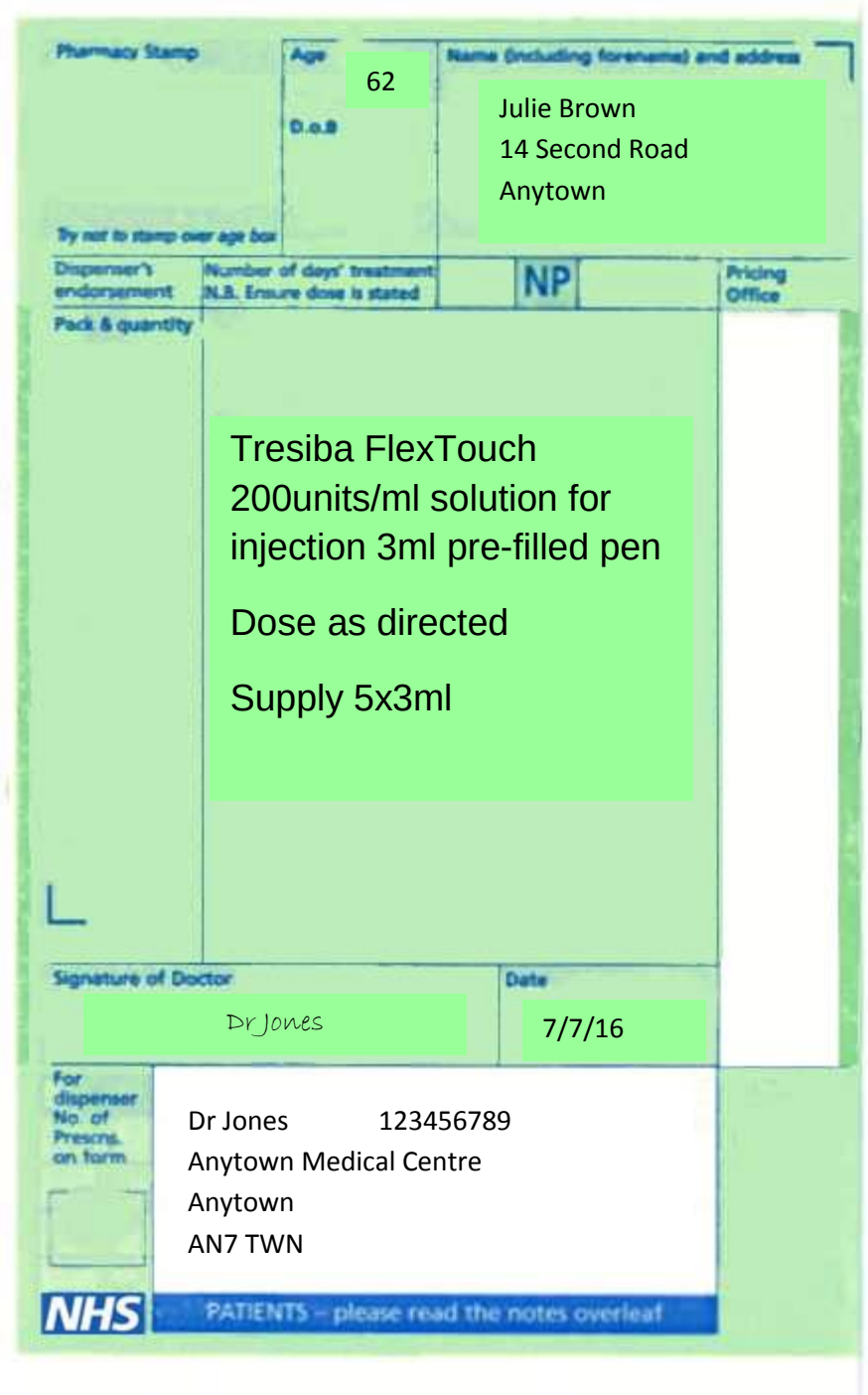
Factors beyond the control of patients or healthcare professionals may mean it is not possible to use a patient's Insulin Passport for the purposes of validating the correct insulin product(s). While every effort should be taken to confirm the accuracy of prescribing and dispensing, the risks in this situation should be acknowledged and all actions to promote patient safety recorded.

Appendix 2 – Example prescriptions

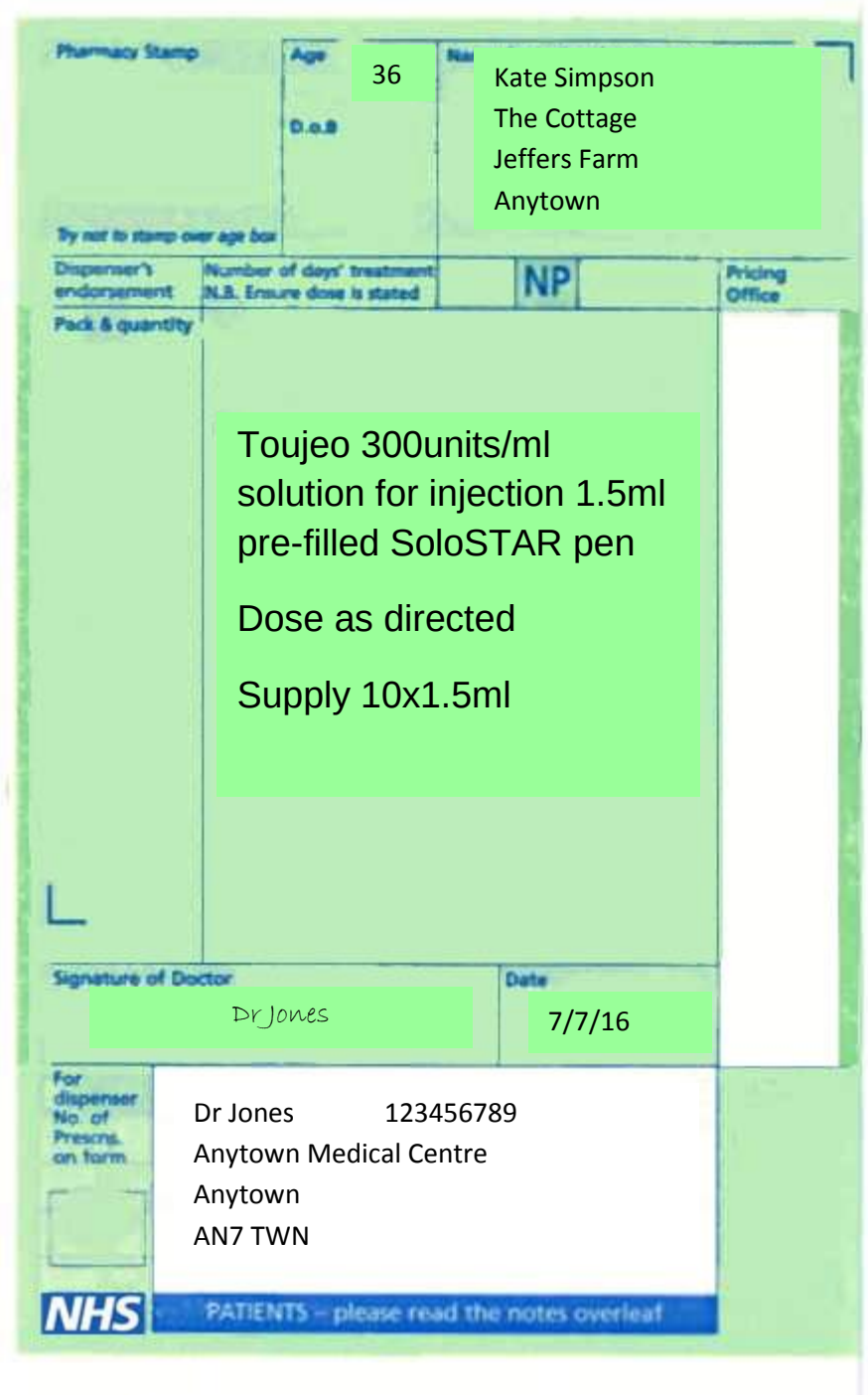
Example 1



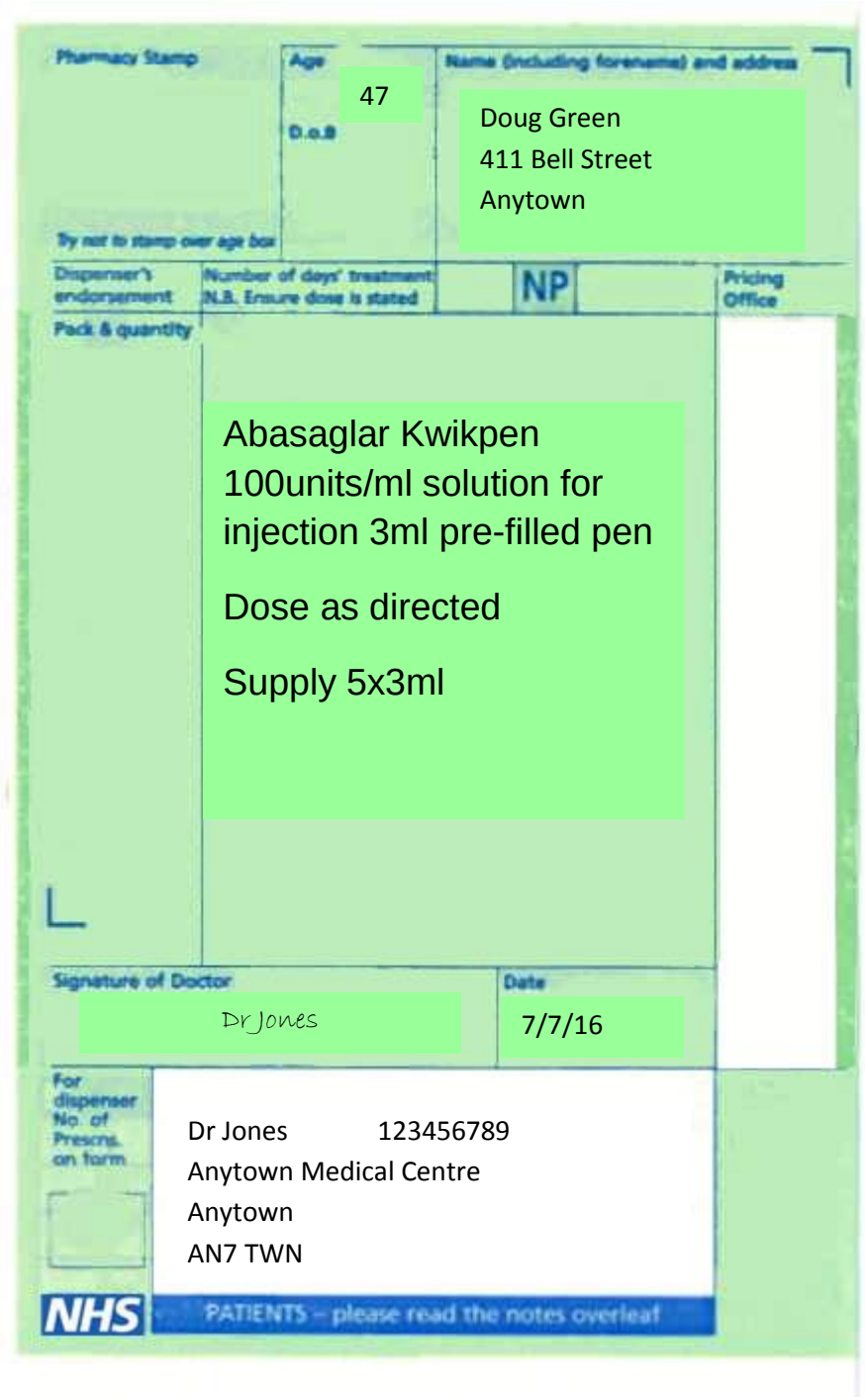
Example 2


Pharmacy Stamp
Age
62
D.o.B
Name (including forename) and address
Julie Brown
14 Second Road
Anytown
Try not to stamp over age box
Dispenser's endorsement
Number of days' treatment N.B. Ensure dose is stated
NP
Pricing Office
Pack & quantity
Tresiba FlexTouch 200units/ml solution for injection 3ml pre-filled pen
Dose as directed
Supply 5x3ml
Signature of Doctor
Dr Jones
Date
7/7/16
For dispenser No. of Prescns. on form
Dr Jones 123456789
Anytown Medical Centre
Anytown
AN7 TWN
NHS
PATIENTS – please read the notes overleaf

Example 3

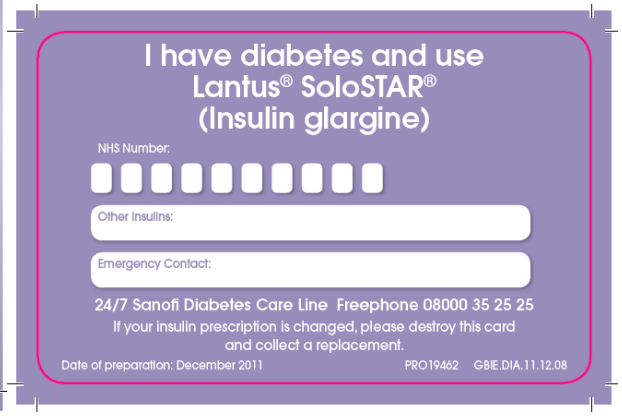

Pharmacy Stamp
Age
36
D.o.B
Kate Simpson
The Cottage
Jeffers Farm
Anytown
Try not to stamp over age box
Dispenser's endorsement
Number of days' treatment N.B. Ensure dose is stated
NP
Pricing Office
Pack & quantity
Toujeo 300units/ml solution for injection 1.5ml pre-filled SoloSTAR pen
Dose as directed
Supply 10x1.5ml
Signature of Doctor
Dr Jones
Date
7/7/16
For dispenser No. of Prescns. on form
Dr Jones 123456789
Anytown Medical Centre
Anytown
AN7 TWN
NHS
PATIENTS – please read the notes overleaf

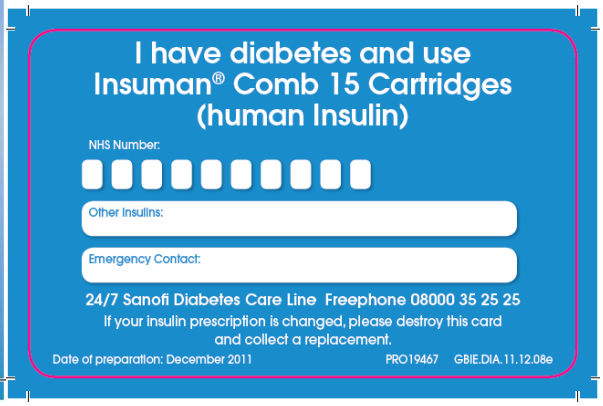
Example 4


Pharmacy Stamp
Age
47
D.o.B
Name (including forename) and address
Doug Green
411 Bell Street
Anytown
Try not to stamp over age box
Dispenser's endorsement
Number of days' treatment N.B. Ensure dose is stated
NP
Pricing Office
Pack & quantity
Abasaglar Kwikpen 100units/ml solution for injection 3ml pre-filled pen
Dose as directed
Supply 5x3ml
Signature of Doctor
Dr Jones
Date
7/7/16
For dispenser No. of Prescns. on form
Dr Jones 123456789
Anytown Medical Centre
Anytown
AN7 TWN
NHS
PATIENTS – please read the notes overleaf

Appendix 3 – Credit card information

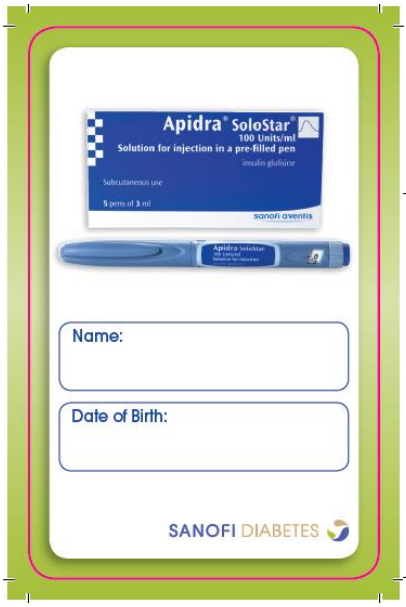
In secondary care, some patients may be issued with credit card information produced by the manufacturer regarding the insulin they use. Below are several examples:
(NB Secondary care will update insulin passports when treating patients).






Insuman® Basal SoloStar®
100 IU/ml
suspension for injection in a pre-filled pen
insulin human
Subcutaneous use
5 pens of 3 ml
sanofi aventis
Name:
Date of Birth:
SANOFI DIABETES


I have diabetes and use
Insuman® Basal SoloSTAR®
(human Insulin)
NHS Number:
Other Insulins:
Emergency Contact:
24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25
If your insulin prescription is changed, please destroy this card
and collect a replacement.
Date of preparation: December 2011
PRO19472 GBIE.DIA.11.12.08l


Apidra® SoloStar®
100 Units/ml
Solution for injection in a pre-filled pen
insulin glulisine
Subcutaneous use
5 pens of 3 ml
sanofi aventis
Name:
Date of Birth:
SANOFI DIABETES


I have diabetes and use
Apidra® SoloSTAR®
(Insulin glulisine)
NHS Number:
Other Insulins:
Emergency Contact:
24/7 Sanofi Diabetes Care Line Freephone 08000 35 25 25
If your insulin prescription is changed, please destroy this card
and collect a replacement.
Date of preparation: December 2011
PRO19465 GBIE.DIA.11.12.08c

Appendix 4: Sample Community Drug Therapy record

DRUG THERAPY RECORD

COMMUNITY NURSING RECORDS

NHS South of Tyne and Wear

Patient's Name: JOHN SMITH	Allergies: PENICILLIN - ANAPHYLAXIS
Date of Birth: 18.08.1961 NHS Number: 1234567890	
Address: 22 FRONT STREET	
ANYTOWN	G.P.: DR JONES
Telephone No.: 0191 1234567	G.P. Address: ANYTOWN MEDICAL CENTRE, ANYTOWN
Other Cards in use:	G.P. Telephone No.: 0191 7654321

All drugs and changes of drug therapy to be recorded before administration by nursing staff

Regular Prescriptions

Date	Drug Name, Strength and Preparation	Dose	Route	Frequency	Additional Instructions	PGD	Prescriber's Name (PRINT) and Signature	Date Discontinued
18.08.16	HUMULIN I 100UNITS/ML CARTRIDGES	25 UNITS	SC	OD	AT MIDDAY (NOON)		DJ JONES JONES	

Once Only Medication / Vaccination

Date	Drug Name, Strength and Preparation	Dose	Route	Frequency	Additional Instructions	PGD	Prescriber's Name (PRINT) and Signature	Date Discontinued

1 of 2

LP31878

RECORD OF DRUGS / VACCINATIONS GIVEN

Patient's Name: JOHN SMITH	D.O.B.: 18.08.1961	NHS No.: 1234567890
Address: 22 FRONT STREET, ANYTOWN		G.P.: DR JONES

Date	Time	Drug Name, Strength and Preparation	Dose	Route	Site	Batch No.	Expiry Date	PGD	Comments	Print Name(s) and Signature(s)
18.08.16	12:00	HUMULIN I 100UNITS/ML CARTRIDGE	25 UNITS	SC	ABDOMEN	A1234	08/2020		VIA HUMAPEN LUXURA	J.DODDS JDodds
19.08.16	12:00	HUMULIN I 100UNITS/ML CARTRIDGE	25 UNITS	SC	ABDOMEN	A1234	08/2020		VIA HUMAPEN LUXURA	S.GREEN SGreen
20.08.16	12:00	HUMULIN I 100UNITS/ML CARTRIDGE	25 UNITS	SC	ABDOMEN	A1234	08/2020		VIA HUMAPEN LUXURA	J.DODDS JDodds