NHS Connecting for Health	**System Demonstration Instructions and Patient Scenario**			
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Scripted System Demonstration Instructions and Patient Scenario

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Background

Following review of the technical questionnaire and response to the functional specification for ePrescribing we would like to ask you to participate in a scripted demonstration of your system.

This will be one of a number of similar demonstrations that will take place on the same day thus it is important that you are well prepared and do not exceed the time allowed. The demonstration will be viewed by NHS staff, who will be scoring what they see.

You have been allocated a total of two hours during which to demonstrate the ePrescribing functionality within your system. You may also wish to highlight other related functionality that is present within your system. You should use the two hours as follows:

- 10 minute introduction
- 80 minute system demonstration following the scenario below
- 10 minute non-scripted demo (use to highlight areas that you wish to draw attention to)
- 20 minutes for questions

IF YOU ARE NOT FINISHED AT THE END OF THE ALLOCATED TIME, THE DEMONSTRATION WILL BE STOPPED

THE DEMONSTRATION MUST FOLLOW THE ORDER OF THE SCRIPT

Demonstration Details

Details of the venue and time of your session will be forwarded to you separately. There will be a contact number available on the day should there be any problems.

If there are any questions about the running order as above or the patient scenario please contact eprescribing@nhs.net

Patient Scenario

Name: Andrew Atkinson
NHS Number: 2468101214
DoB: 01.12.41
Gender: Male
Allergy: No known allergies

Existing Conditions: Insulin dependent diabetes, atrial fibrillation, heart failure, hypertension, glaucoma and prostate cancer.
He is being admitted via A/E due to suspected pneumonia

Current Prescription at Home:

1. Humulin S 14u in the morning and Humulin I 16u in the evening
2. Digoxin 250mcg in the morning
3. Enalapril 10mg in the morning
4. Warfarin 5mg daily
5. Goserelin 10.8mg IM every three months
6. Latanoprost 50mcg per mL eye drops, both eyes, at night

Previous admissions to hospital over the last 12 months have included one admission for atrial fibrillation during which Digoxin and Warfarin were initiated and an admission for increasing shortness of breath during which Enalapril was initiated.
Mr Atkinson will now be admitted to Ward 6

Part 1 - Retrieve Medication History

Dr Smith retrieves Mr Atkinson's record, retrieving from a list of all his current in-patients of whom he currently has 12, two of whom are also called Atkinson.

- Demonstrate how a patient might be identified using a ward search, a name search and a patient number search.
- On retrieving the record navigate to show past medication history from previous episodes of care and how these are differentiated from current episodes.
- Demonstrate how allergy is recorded and add an allergy to tetracycline.

Part 2 – Prescribe Inpatient Medicines

Dr Smith now prescribes Mr Atkinson's inpatient medicines:

1. Humulin S 14u in the morning and Humulin I 16u in the evening
2. Digoxin 250mcg in the morning
3. Enalapril 10mg in the morning
4. Warfarin 5mg daily
5. Goserelin 10.8mg every three months (next due tomorrow)
6. Latanoprost 50mcg per mL eye drops, both eyes at night

- If possible he should identify which of the medicines Mr Atkinson was taking when admitted i.e. patients own medicines.
- If possible please identify the indication for the warfarin and the Enalapril i.e. atrial fibrillation and heart failure and/or link to the specific diagnosis as per the patient history above.
- Please show any additional features that are available to support the prescribing of warfarin and the insulin.
- At the end of this section, please complete the prescription and navigate out of the prescribing pathways

Part 3 – Decision Support

Dr Smith now prescribes additional medicines:-

1. Doxycycline 100mg daily
2. Furosemide 60mg at 10am and 2pm
3. Verapamil 40mg twice a day

- Explain the warnings that are generated and any features that are available e.g. acuity etc
- Accept the allergy warning and opt to prescribe erythromycin 500mg four times a day for 14 days
- Acknowledge any other warnings that may occur but continue with the prescription.

Part 4 - Prescribing Off Formulary & Predefined Prescriptions

Dr Smith prescribes a medicine that is not contained within the Trust formulary.

- Prescribe co-codamol 30/500 capsules four times a day when required for pain. Search for the drug using the trade name Tylex but prescribe generically if possible from this search.
- Demonstrate how the system manages non-formulary orders and any options that are available.
- Finally decide not to prescribe the co-codamol and select paracetamol in its place using a predefined order for paracetamol i.e. dose (500mg - 1g) and frequency (4-6 hourly) are pre-populated but change the frequency in the offered order to three times a day PRN for pain.

Part 5 - Pharmacist Verifies Prescription

Sign in as Sally Jones, ward pharmacist

Sally Jones the ward pharmacist signs in to the patient to verify the prescriptions.

- Demonstrate how Sally can identify which prescriptions require verification on Mr Atkinson's ward.
- Demonstrate how Sally enters Mr Atkinson's prescription and verifies his medicines.
- She decides to alter the prescription for digoxin to 125micrograms daily as the initial dose was incorrect and suspends the warfarin as the INR has risen to 6.
- Outline any options that are available as part of verification e.g. mandatory verification available, verification must be undertaken before administration is allowed etc.
- Finally show how the current medication list has altered to reflect the change following verification.

Part 6 - Two days later Mr Atkinson's medicines need to be altered

- Before making any changes show how the current medication list can be displayed to show a clinician exactly what the current prescription contains. Explain briefly how this can be altered if this is possible.

- Discontinue his Verapamil as this is no longer clinically indicated.

  Add in:
  1. Morphine (MST) MR tablets 10mg twice a day
  2. Heparin Na 800 units every hour from syringe containing 48000 units in 50 mL sodium chloride 0.9% injection and order APTT monitoring
  3. SK125 tablets 25mg daily
  4. Sodium chloride 0.9% infusion IV, 125ml per hour for 24 hours

- Add a note to the SK125 (the identifier for a clinical trial medicine) to highlight that this is available only via the Trust pharmacy and must be given with food.

- Finally add a predefined order that is contained within an order set - the order set should be identified as the MRSA order set. The medicines contained within it are:-

  1. Bactoban nasal ointment apply to both nostrils three times a day
  2. Aquasept skin cleanser, to be used to wash in daily.

  The Bactoban should be selected for prescribing but not the Aquasept which should be substituted for Hydrex surgical scrub.

Part 7 - Administration

Sign in as Nurse Watson

Nurse Watson is ready to administer the medicines that are due to be given on the morning medicines round.

- Demonstrate how she can access the system to identify which patients are due medicines at this time and highlight how medicines are scheduled e.g. according to medicine round times or actual elapsed time. What happens if medicines are not recorded as being given?

- Demonstrate how she can identify for an individual patient what is due, what has been given recently and how she can compare to the overall prescription.

- Last nights due dose of Latanoprost was not given - as not available. Please show how this might be handled.

- Please administer the medicines that are due but chart the :
  - SK125 as not be given as not clinically appropriate and add a note to state that withheld on medical advice from Dr King,
  - the sodium chloride infusion as being initiated for the second litre bag
  - and the others as prescribed.

- Mr Atkinson vomits his Digoxin later that day. Demonstrate how this can be recorded.

- Demonstrate how witnessing can be used to support the morphine administration

- Administer the PRN paracetamol and chart that 500mg has been given.

Part 8 – Discharge Prescribing

Sign in as Dr Smith

It is time for the discharge prescription to be written.

- Please demonstrate this functionality and show how the following medicines are prescribed as take home medicines all of which are to be continued by the GP bar the antibiotic. If it is possible to highlight changes that have been made compared to the admission prescription, please highlight this.

- Prescribe:

    1. Humulin S 14u in the morning and Humulin I 16u in the evening
    2. Digoxin 125mcg in the morning
    3. Enalapril 10mg in the morning
    4. Warfarin 5mg daily
    5. Goserelin inj 10.8mg IM every three months (next due?)
    6. Latanoprost 50mcg per mL eye drops, both eyes at night
    7. Erythromycin 500mg four times a day (10 days still remaining of the course)
    8. Morphine (MST) 20mg MR tabs twice a day
    9. Morphine 10mg/5mL oral solution, 5-10mg every four hours when required for break through pain.

Clinical Functional Review Questions

Ref	Functionality Questions
Retrieve Medication History	
1.1	Is finding and getting into a patient's record clear and easy?
1.2	Is it possible to retrieve patient details via, name, surname, sex, DoB, NHS number?
1.3	Can similar patients be distinguished from each other?
1.4	Is patient ID visible at all times? E.g. Name, DoB, NHS Number
1.5	Is patient location clear at all times?
1.6	Is the patient status visible?
1.7	Is it obvious which clinician is signed in?
1.8	Are the different types of medication related information displayed clearly differentiated e.g. medication history, inpatient prescription, discharge etc
1.9	Is it possible to access and view the prescription details without the need to prescribe or administer? I.e. is there a separation of viewing and editing functions?
1.10	Are the details contained within the displays sufficiently complete and clear to support clinical decision making?
1.11	Can allergy be recorded?
1.12	Does the recording of an allergy comply with good clinical practice?
1.13	Is it possible to record 'No Known Allergies'?
1.14	Is it possible to record the reason for an allergy being recorded?
1.15	Is adding an allergy group possible? E.g. Penicillin
1.16	Is it possible to record an allergy to an individual medicinal product?
1.17	Is allergy entry required before initial prescribing?
1.18	Is the allergy status clear throughout all screens?
1.19	Are the details of the clinician signed in, visible at all times?
1.20	Is it clear how to navigate to the various prescribing / medications management functions?
Prescribe Inpatient Medicines	
2.1	During searches for medicines Is the Unit of Measure for the dose and/ or volume limited to allow for selection of only those that are appropriate for the medicine selected?
2.2	During the search for medicines Is the Route selection limited to those that are pertinent to the medicine combination(s) selected and exclude routes that are considered to be unsafe?
2.3	During the search for medicines Is the Frequency selection limited to those that are appropriate for the medicine combination(s) selected for their intended use? e.g. oral tablets once weekly
2.4	Do search results facilitate the selection of complete prescriptions when possible i.e. details of the dose and frequency are already available?
2.5	Are Dose and Strength clearly separated? e.g. in the eye drop prescription
2.6	Is microgram clearly displayed for the Digoxin dose or if mg are used is the dose clear? i.e. 0.25 mg (a leading zero and clear decimal place)
2.7	If micrograms are used, is this clearly distinguishable from milligram?
2.8	Does the system display all the details of a prescription in full i.e. abbreviations are not utilised?

2.9	When displaying drugs do they contain truncated descriptions?
2.10	Is access to prescribing limited according to user type?
2.11	When typing in a medicine description, is a reducing list of medications available for selection, as more characters are added?
2.12	When drug lists are returned, are they ordered according to altering priorities, depending on the medicine being selected e.g. grouped by name, strength, form and frequency of use etc?
2.13	Do the drug lists returned only contain 'medicinal'* products and not lists that can be used for placing other non-prescription related orders?
2.14	When the drug lists are displayed, are there trailing zeros after decimal points? E.g. 5mg and NOT 5.0mg is used?
2.15	Does the system avoid wrapping medication details mid-word or mid-attribute between different lines e.g. 10 mg
2.16	Is the word 'unit' displayed in full for the insulin dose?
2.17	Does the insulin prescription offer any blood sugar results or the opportunity to order or review them?
2.18	Are insulins prescribed by brand name?
2.19	Does it suggest that INR should be ordered as part of the prescribing process for Warfarin?
2.20	Does the selection of Warfarin automatically display INR results?
2.21	Is access to related INR results readily available when prescribing Warfarin?
2.22	Is Warfarin highlighted as a high risk drug?
2.23	Is it possible to prescribe without having to specify an actual product i.e. Warfarin does not state 1x3mg plus 2x1mg or equivalent?
2.24	Is this type of 'dose based' prescribing prioritised?
2.25	Is it possible to clearly define the date on which the next dose of Goserelin is due?
2.26	Is a qualifier automatically presented for certain routes? e.g. left, right or both eyes
2.27	Is it possible to select an indication for the prescriptions?
2.28	Is it possible to identify which medicines were being taken prior to admission i.e. patients own medicines?
2.29	Is it possible to link the prescriptions to a specific diagnosis or problem?
2.30	Is there a confirmation step required before a prescription is authorised?
2.31	When exiting the prescribing process is it evident that the previous prescribing steps have been successful?
2.32	Is it possible to complete a prescription with a series of identical keystrokes? e.g. multiple carriage returns
2.33	Are different types of prescription clearly differentiated if listed within the same list? E.g. Inpatient versus Discharge
2.34	Are displays of medicines related to one episode/spell of care, unless specifically selected as otherwise by the user?
2.35	Are Warfarin interaction alerts available, clearly outlining the clinical impact?
Decision Support	
3.1	Are drug interactions clearly displayed?
3.2	Are allergies clearly highlighted?
3.3	Can interaction alert levels be centrally suppressed according to acuity?
3.4	Can alerts be customised by speciality?
3.5	Can alerts be customised by location?
3.6	Is an alert generated as soon as medicine is selected?

3.7	Is the description of the clinical reason for an alert clear?
3.8	Is it possible to discontinue medication from within the alert?
3.9	Is there an alert over-ride? i.e. you can continue or just acknowledge the alert
3.10	Is it possible to enter a reason for the over-ride?
3.11	Can alert acknowledgement reasons be customised to avoid using free text?
3.12	Can an alert be absolute? I.e. you can not prescribe?
3.13	Can absolute alerts be locally defined i.e. Trust level?
3.14	Is it possible to schedule the Furosemide at the specific times identified i.e. 10 am and 2pm?
3.15	Can a defined course length be prescribed? i.e. the 14 days for the Erythromycin
3.16	Is the level of alerting clinically sensible and UK orientated?
Prescribing Off Formulary and Predefined Prescriptions	
4.1	Is non-formulary drug search possible?
4.2	Are medicines identified as being non-formulary?
4.3	Is reason for non-formulary use required?
4.4	Does trade name selection return generic names?
4.5	Are all the elements within the predefined prescription displayed clearly? E.g. route, dose, frequency
4.6	Are the differentiating characteristics clear when lists of predefined prescriptions are displayed for selections?
4.7	Where there are multiple predefined prescriptions available, is it possible to group these according to local priority?
4.8	Is it possible to limit the number of predefined prescriptions for selection?
4.9	Can predefined prescriptions be easily altered?
4.10	Where both paediatric and adult predefined prescriptions are available are they clearly separated?
4.11	Do the predefined prescription details that are selected, include any truncation or abbreviations?
4.12	Are individual components of the predefined prescription clearly separated to ensure that blurring of information is not possible? e.g. a drug name running into a strength or dose
4.13	Is it possible to locally define 'predefined prescriptions'?
4.14	Is a reason for the PRN required i.e. for pain?
4.15	Are PRN reasons predefined?
4.16	If available is the PRN reason list limited to those appropriate for the medicine to which it refers?
4.17	Is it possible to prescribe a variable dose? E.g. paracetomol 500mg - 1g
Two Days Later	
5.1	Does the current medication display contain sufficient information to enable safe prescription review before prescribing?
5.2	Is the route taken to access the prescribing functionality easy to follow and clear?
5.3	Are medication views customisable, and do they allow different levels of detail?
5.4	Is the action to discontinue a medicine visible / findable?
5.5	Is it possible to record a reason for the discontinuation of a medicine?
5.6	Are reasons for discontinuation predefined?
5.7	Is it possible to locally customise the reasons for discontinuation?

5.8	Can notes be added to the individual prescription at this stage?
5.9	Is it possible to list the morphine using both the trade name and the generic name?
5.10	It is clear that Morphine is a controlled drug?
5.11	Are strength and/or dose clearly displayed in ascending order within pick lists?
5.12	Is it possible to prescribe the heparin and the diluent within a single prescription i.e. part of the same order?
5.13	Is it possible to define all the required elements to ensure that a safe prescription results i.e. both the dose and the rate etc?
5.14	Are links to pathology results or other areas possible?
5.15	Is it possible to prescribe simple infusions as demonstrated by the sodium chloride infusion example?
5.16	Does the prescription of an infusion require that volume and/or rate limits/times are mandatory?
5.17	Is it possible to prescribe free text medicines?
5.18	Can you limit free text to drug descriptions and have a structured dose description? i.e. select route/ frequency from predefined lists
5.19	Is there sufficient support to ensure that a full predefined prescription is written up?
5.20	Are there warnings about a lack of decision support as a result of using free text medicines?
5.21	Is it more difficult to prescribe a free text medicine to discourage routine use of this facility?
5.22	Are order sets available?
5.23	Can order sets grouped by indication?
5.24	Does each individual item have to be selected?
5.25	Is it possible to alter individual components of an order set?
Pharmacist Verifies Prescription	
6.1	Does the system assemble a list of which patients have medications requiring verification?
6.2	Can this be organised appropriately? E.g. by ward, consultant, overdue medications
6.3	Within a single patient record, is it possible to list the medications that require verification?
6.4	Can administration of a medicine take place if pharmacist verification has been not been undertaken?
6.5	Is it possible to stop medicines becoming available for administration until verification has been completed; - for all medicines prescribed?
6.6	- Is it for individual medicines?
6.7	- for individual locations e.g. one ward?
6.8	- for prescriber groups or types?
6.9	Can the Warfarin script be suspended pending problem sorting?
6.10	Does the system clearly show the Warfarin as suspended?
6.11	Can the Digoxin dose be altered?
6.12	Does this change clearly show as an alteration i.e. the initial script is linked to the amended one?

6.14	Is each prescription item verified individually?
Administration	
7.1	Can the views be customised by user?
7.2	Can the views be customised by user type?
7.3	Can the views be customised by location?
7.4	Can access to patient's details be organised by: - - Bed?
7.5	- Ward?
7.6	Does the administration screen clearly display which medicines are due, overdue and 'when required'?
7.7	When switching between lists of patients on a ward and individual patient records Is it possible to move through the ward list patient by patient (as would occur on a medicines round), with specific safeguards to ensure that the user is aware of the change of patient record being accessed?
7.8	Are ward based patient lists sufficiently low in detail to ensure that administration could not be safely carried out using them? (I.e. an individual patient record must be accessed)
7.9	Is it clear which medications are due for an individual patient?
7.10	Is it possible to review the current prescription?
7.11	Is it possible to review the administration history and where the list is up to for the day/ prev 24hrs?
7.12	Are PRN medicines clearly separated from non-PRN medicines?
7.13	Is it clear for an individual patient that PRN medicines may be due?
7.14	Does grouping of individual components default to highlight the overdue medicines as a priority?
7.15	Is it possible to determine that there are other medicines that may need to be accessed where lists are longer than the available screen space?
7.16	Do prescribed frequencies automatically schedule for standard times? E.g. twice a day
7.17	Can the default schedules be tailored by medication or group?
7.18	How are medication rounds times defined?
7.19	Can medication rounds be set locally?
7.20	Can the medication rounds times be specific to a ward?
7.21	Can the round times be specific to a location?
7.22	Can medications be given earlier or later than scheduled?
7.23	Are medications that are not recorded as given, continually schedule until acknowledged?
7.24	- is there routine reporting to identify non-administration available to stop continual rescheduling from happening?
7.25	Does the system limit access so that only one user can edit administration information / record administration events, for the same patient, at the same time (other than where witnessing is required)?
7.26	Do details of the medicine to be given, clearly outline the medicine and dose to be administered?
7.27	Is it possible to see what has been administered previously to check that too many doses have not been given and/or that sufficient time has elapsed between doses for PRN medicines?
7.28	Are the display of medicines within the administration screens consistent with how medicines have been displayed within medication history or prescribing medicines?

7.29	Are specific notes that may have been added to aid administration visible, and not hidden behind an icon or truncated
7.30	Is it clear what is a dose and what is a strength?
7.31	Is the dose to be given adjacent to the medicine name?
7.32	Is it possible to see related pathology test results during the administration process?
7.33	Are the prescriber's details accessible?
7.34	Are specific notes that may have been added to aid administration visible, and not hidden behind an icon (as they may be truncated)
7.35	Are suspended medicines clearly identified i.e. the Warfarin and not accessible for administration?
7.36	Does each medicine that is due have to be individually recorded as being given?
7.37	Is access to administration recording limited according to user type?
7.38	Does the system only allow administration to be undertaken for one patient at a time i.e. it is not possible to have multiple patient records open at the same time?
7.39	Are predefined reasons for not giving a medicine clearly displayed?
7.40	Can notes be added to the administration record?
7.41	Is the recording of an infusion easy and not likely to allow for drips to be initiated without previous ones being completed
7.42	Is batch number and expiry required?
7.43	Do controlled drugs require witnessing before administration can be recorded?
7.44	- is the witness action easy and clear and unlikely to deter from the actual checking function?
7.45	Is it possible to update the recording of an administration event? E.g. as per the Digoxin example
7.46	- are reasons for doing this required?
7.47	- are the reasons predefined?
7.48	Is it possible to record the actual dose that was given? E.g. for variable doses or partial non-administration
7.49	Is it possible to update the recording of an administration event? E.g. as per the Digoxin example
7.50	Are the instructions for administering a medicine completely unambiguous?
7.51	Would you be happy to administer medications from this system?
Discharge Prescribing	
8.1	Is it possible to define when the patient is to go home?
8.2	Is it obvious that discharge prescriptions are being written?
8.3	Is it possible to use an inpatient prescription as the basis for defining the discharge prescription?
8.4	If the inpatient script can be used as a basis, does each individual medicine have to be selected individually for translation to a discharge prescription?
8.5	Is it possible to add instructions to each individual medicine? (e.g. for the GP to continue for two months etc)
8.6	Does the system prompt for the number of days of Erythromycin that are still required based on the inpatient prescription?
8.7	Is the date that the Goserlin inj is next due specified?
8.8	Can new drugs be added in to the discharge medication list?

8.9	Are all of the controls used in the inpatient ordering pathways present in the discharge pathway? E.g. limited routes
8.10	Does the addition of new drugs prompt changes to the current inpatient prescription appropriately?
8.11	Does the system require that the strength of morphine tablets be defined?
8.12	Is it possible to highlight changes that have occurred to a patient's prescription during the hospital stay when compared to an admission medication history?
8.13	Does the prescription information automatically populate the discharge summary letter?
8.14	Are inpatient medications still available for administration? i.e. writing a discharge prescription does not discontinue the inpatient medications

Clinical Usability Review Questions

Ref	Usability Questions
9.1	Do the processes used by the system correspond appropriately to your practice?
9.2	Is it possible to work through the processes quickly enough to support real-life practice?
9.3	Is it always clear where you are within a given process?
9.4	Are the warnings generated by the system appropriate (in their tone and in terms of the actions required to manage them?)
9.5	Is the wording (including any abbreviations) used on-screen correct and intuitive for your practice?
9.6	If symbols are used, are they familiar and easy to understand?
9.7	Are the screens clearly laid out (i.e. do they draw your attention to the important things)?
9.8	Are the screens uncluttered (i.e. is there just enough, but not too much, information on display)?
Ref	**Usability and error prevention criteria for further evaluation**
10.1	Can a task be dissociated from its object?
10.2	Can the switching of context be disguised?
10.3	Is the sequence or state of a process easy to understand?
10.4	Is the selection of an item or parameter easy for the user?
10.5	Is the user warned appropriately?
10.6	Does the system create the illusion of support?
10.7	Do views within the patient record create the illusion of completeness?
10.8	Does the system use non-confusing and consistent words, symbols and layouts?
10.9	Is the information provided to the user done in a manner that does not overload them with information?
10.10	Does the system provide feedback to the user in response to user input?
10.11	Can the user move within and between screens without requiring memory or calculation?