Implementation of ‘The Self administration of insulin’ at University Hospital Southampton

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“People with diabetes admitted to hospital should be cared for by appropriately trained staff, provided with access to a specialist diabetes team, and given the choice of self-monitoring and managing their own insulin.”
(NICE, 2011)

Background

• Agreement form signed by patient and nurse
• Highlight circumstances when self management is not appropriate i.e. Pre op
• Diabetes specialist team involvement when needed
• Insulin dose recorded on prescription chart
• Meal timings and content suitable
• Facilities available for the safe storage of insulin on the ward

(NHS Diabetes, 2012)
Background

Almost half of these errors are related to administration which includes insulin given at the wrong time.
Project aim

- Implement a process allowing patients the choice to self-administer their insulin
- To develop an assessment tool to assess whether it is safe for a patient to self-administer their insulin
- To ensure patients receive their insulin at the appropriate times
- To help stabilise patients blood glucose levels
- To reduce errors relating to insulin administration
Baseline audits – (1) Insulin timing

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Administrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered before plan</td>
<td>6300</td>
</tr>
<tr>
<td>0-1 hrs</td>
<td>18334</td>
</tr>
<tr>
<td>1-2 hrs</td>
<td>10681</td>
</tr>
<tr>
<td>2-3 hrs</td>
<td>2558</td>
</tr>
<tr>
<td>3-4 hrs</td>
<td>695</td>
</tr>
<tr>
<td>&gt; 4 hrs</td>
<td>865</td>
</tr>
<tr>
<td>Grand Total</td>
<td>39433</td>
</tr>
</tbody>
</table>

Percentage of Administrations by category (15/11/15 to 14/11/16):
- Administered before plan: 47%
- 0-1 hrs: 6%
- 1-2 hrs: 2%
- 2-3 hrs: 2%
- 3-4 hrs: 16%
- > 4 hrs: 27%

Humulin M3
- Clinical reason: 20%
- Not due: 10%
- Self admin: 60%
- On time: 10%
- Late: 9%
- 11 patients

Novorapid
- Clinical reason: 20%
- On time: 10%
- Self admin: 60%
- Late: 10%
- 12 patients

Novomix 30
- Clinical reason: 20%
- Not due: 10%
- Self admin: 60%
- On time: 10%
- Late: 9%
- 7 patients
## Baseline audits – (2) Insulin pen fridge audit

<table>
<thead>
<tr>
<th></th>
<th>Nov 2016</th>
<th>May 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current insulin</td>
<td>£655</td>
<td>£808</td>
</tr>
<tr>
<td>Unlabelled insulin</td>
<td>£1104</td>
<td>£1434</td>
</tr>
<tr>
<td>Discharged patients insulin</td>
<td>£1305</td>
<td>£1736</td>
</tr>
<tr>
<td>Total insulin cost</td>
<td>£3064</td>
<td>£3978</td>
</tr>
</tbody>
</table>

An average disposable insulin pen costs £8 so this is the figure used in the calculations above.
Assessing adult patients for self-administration of insulin whilst in hospital

For use by nursing and pharmacy staff in conjunction with the UHS patient self-administration of medicines policy.

1. Does patient self-administer insulin at home?
   - Yes → Does patient consent to self-administration of insulin?
     - Yes → Does the patient appear confused or drowsy?
       - Yes → Not suitable for self-administration
       - No → Is the patient NBM?
         - Yes → Not suitable for self-administration
         - No → Can patient attach needle to insulin pen and dial up?
           - Yes → Does patient have access to a sharps container at their bedside?
             - Yes → Does the patient know their blood glucose level targets?
               - Yes → Suitable for level 1 self-administration
               - No → Not suitable for self-administration
             - No → Not suitable for self-administration
           - No → Not suitable for self-administration
   - No → Not suitable for self-administration

2. Initial assessment carried out by the pharmacy team.

Assessment form attached to each drug trolley.
Note added on JAC to document which level of self administration

After assessment undertaken, this was prescribed on JAC

Pop up when nurse administering medications – need to sign to say patient still able to self administer
Storage of insulin

82p each (1 Litre)

14p each

£66 x 1114 = £73,524 before fitting
# Pilot findings

<table>
<thead>
<tr>
<th>Ward</th>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D4 Vascular ward</strong></td>
<td>2 patients (Dementia, End of life)</td>
<td>2 patients (One of these was not suitable for 8 days as Post op confusion)</td>
<td>2 patients (One of these chose not to self administer)</td>
</tr>
<tr>
<td><strong>D7 Medical ward</strong></td>
<td>3 patients (One of these chose to be level 0)</td>
<td>3 Patients</td>
<td>3 Patients</td>
</tr>
<tr>
<td><strong>C5 Cystic fibrosis / medical ward</strong></td>
<td>0 patients</td>
<td>0 patients</td>
<td>3 patients (All had CF diabetes)</td>
</tr>
<tr>
<td><strong>F5 Surgical ward</strong></td>
<td>2 patients (1 having doses varying frequently ?could have been level 1 and 1 who was deaf and had problems lip reading, went home after stopping VRIII)</td>
<td>0 patients</td>
<td>3 patients</td>
</tr>
</tbody>
</table>
Conclusions

- Nursing time saved
- Money saving due to pen wastage
- Insulin timing improved
- Improved patient satisfaction levels
What's next?

• Phase 1 – change insulin pen storage (out of fridge and into patients medication lockers)

• Phase 2 – Implementation of safety needles for insulin pens on all ward areas (in progress)

• Phase 3 – Full insulin self administration roll out within the trust (Aug 2017)