Background
Approximately 700,000 women give birth in England & Wales each year with up to 5% of these women having either pre-existing diabetes or gestational diabetes (GDM). Women who have diabetes during pregnancy, it is estimated that approximately 87% have GDM. It is well recognised that early diagnosis of diabetes aids in timely intervention to reduce long term complications.

Audit Standard
To assess the screening for Diabetes Mellitus (DM) in post delivery patients diagnosed with Gestational Diabetes (GDM) during pregnancy, in accordance with NICE Guidelines 2015 Part 1.5 N3.
1. Fasting Blood Glucose test to be offered 6-13 weeks post delivery.
2. If standard 1 not met, Fasting Blood Glucose test should be offered beyond 13 weeks. Of HbA1c test should be offered beyond 13 weeks.
3. The 75g 2-hour OGTT should not be offered routinely.

Methodology
The diagnosis of GDM was made with results of oral glucose tolerance test, fasting blood glucose (FBS) ≥ 6.1 mmol/l & 2hr blood sugar ≥ 7.8 mmol/l.
91 patients were identified with GDM between 1st January 2014 & 2nd January 2015 based on records provided by the biochemistry laboratory & diabetes centre.
We checked results of these patients for FBS and HBA1c tested between 13-20 weeks post delivery.

Results
1. Fasting Glucose test 6-13w post-delivery

<table>
<thead>
<tr>
<th>Test</th>
<th>n=51</th>
<th>n=4</th>
<th>n=11</th>
<th>n=2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Glucose</td>
<td>6%</td>
<td>17%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>HbA1c</td>
<td>50%</td>
<td>20%</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

2. Patients screened for DM 13-20w post-delivery

<table>
<thead>
<tr>
<th>Test</th>
<th>n=51</th>
<th>n=15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Glucose</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>HbA1c</td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>

3. The 75g 2-hour OGTT should not be offered routinely:
100% compliance, no patient was tested for OGTT post delivery.

Conclusion
NICE Standard 1
Almost three quarters of all 91 patients (73% n=66) were not tested for fasting glucose between 6-13 weeks post delivery.
NICE Standard 2 (if 1. not met)
23% (n=15) of these 66 patients had either fasting glucose or Hba1c tested between 13-20w.
In contrary to NICE guidelines, 2 patients undertook both tests.
NICE Standard 3
100% compliance. No patient had OGTT as a screening test after delivery.
Out of 40 patients who were tested, 6 were diagnosed with DM (15%). No screening information was available for 56% of all 91 patients (n=51).

Discussion
Bellamy et al. 2009 have shown patients diagnosed with GDM have been noted to have at least a seven fold increased lifetime risk in developing DM type 2 and associated microvascular complications. Rhonda Bentley-Lewis et al. 2009 have similarly found there to be a high incidence although a range between 2-6% is more than 75% in studies examining women from 6 weeks to 2 years post partum.
This range shows if it can be difficult to measure the incidence of DM type 2 in postnatal GDM patients due to varying diagnostic thresholds over the years 10, using insulin during pregnancy, long periods of delay to post-partum follow-up and missed opportunities for education and screening efforts in these patients.

Recommendations
- Diabetes team will hand deliver blood test request forms to patients in the clinic & encourage them to be tested 6-12w post-delivery.
- Enhance awareness in primary care by arranging audit presentations by diabetes specialist nurses at GP practices.
- Reminder alerts can be placed on electronic patient records with GP consent.
- We aim to re-audit in 18 months to re-evaluate the effectiveness of implemented methods.

References
1. [http://www.nice.org.uk/guidance/ng3]
2. [http://www.bmj.com/content/348/bmj.f372]