Harnessing Technology to Improve Maternity Care

Wendy Jones – ADO Women and Children’s Services
The Trust employs over 4,200 members of staff and provides health services to a population of over half a million people covering the whole of Warwickshire.
The Vision

Implement a maternity system that would:

• Become the full electronic health care record
• Improve communication between health care professionals regarding plans of care
• Capture the data required for national maternity service dataset
• Partner with women in their health and well-being
• Capture data and statistics for local interrogation, planning, service improvement etc
Almost 9 in every 10 adults in the UK have used the internet in the last three months (86%)

Almost all adults aged 16 – 54 years have used the internet in the last three months...

- 16 to 34: 99%
- 35 to 54: 95%
- 55 to 64: 87%
- 65 to 74: 71%
- 75+: 33%

...but just 3 in every 10 adults aged 75+ have used the internet in the last 3 months.

Trust Patient Population by Age
Moving to the use of electronic records
I-pad & System Benefits: Improving Productivity

• E-referrals
• Real time data, clinical management planning
• Improved communication between professional groups
• Reduced duplication of data entry
• Improved accuracy of reporting
• Improved service/management planning
Improving Safety

• Immediate access to records

• Improved timeliness of audit

• Enhanced incident reviews and speedier response /action plans

• IG benefits
### Gestation

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
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<tbody>
<tr>
<td>&lt;34 weeks</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>2</td>
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<tr>
<td>&lt;34 weeks %</td>
<td>1.56</td>
<td>0.45</td>
<td>1.84</td>
<td>2.37</td>
<td>0.41</td>
<td>1.86</td>
<td>1.35</td>
<td>3.72</td>
<td>0.42</td>
<td>0.95</td>
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<tr>
<td>34 - 36+ weeks</td>
<td>10</td>
<td>7</td>
<td>16</td>
<td>5</td>
<td>13</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>34 - 36+ weeks %</td>
<td>5.21</td>
<td>3.14</td>
<td>7.37</td>
<td>2.37</td>
<td>5.28</td>
<td>4.65</td>
<td>5.86</td>
<td>3.72</td>
<td>4.18</td>
<td>2.84</td>
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<tr>
<td>37 - 41+ weeks</td>
<td>174</td>
<td>202</td>
<td>190</td>
<td>194</td>
<td>225</td>
<td>193</td>
<td>197</td>
<td>222</td>
<td>199</td>
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<tr>
<td>37 - 41+ weeks %</td>
<td>90.63</td>
<td>90.58</td>
<td>87.56</td>
<td>91.94</td>
<td>91.46</td>
<td>89.77</td>
<td>88.74</td>
<td>90.7</td>
<td>92.89</td>
<td>93.41</td>
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<tr>
<td>42+ weeks</td>
<td>5</td>
<td>13</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>4</td>
<td>6</td>
<td>4</td>
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<tr>
<td>42+ weeks %</td>
<td>2.6</td>
<td>5.83</td>
<td>3.23</td>
<td>3.32</td>
<td>2.85</td>
<td>3.72</td>
<td>4.05</td>
<td>1.86</td>
<td>2.51</td>
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### Birth weight (count of babies)

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<tr>
<th>BirthWeight</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tr>
<td>&lt;1500g</td>
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<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
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</tr>
<tr>
<td>&lt;1500g %</td>
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<td>0</td>
<td>0.46</td>
<td>0.05</td>
<td>0</td>
<td>0.03</td>
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<td>0.02</td>
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<tr>
<td>1500 - 2499g</td>
<td>11</td>
<td>7</td>
<td>13</td>
<td>7</td>
<td>14</td>
<td>7</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>0</td>
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<tr>
<td>1500 - 2499g %</td>
<td>5.73</td>
<td>3.14</td>
<td>5.99</td>
<td>3.32</td>
<td>5.69</td>
<td>3.26</td>
<td>6.31</td>
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<tr>
<td>2500 - 4499g</td>
<td>177</td>
<td>211</td>
<td>202</td>
<td>198</td>
<td>227</td>
<td>198</td>
<td>202</td>
<td>197</td>
<td>227</td>
<td>202</td>
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<td>0</td>
</tr>
<tr>
<td>2500 - 4499g %</td>
<td>92.19</td>
<td>94.62</td>
<td>93.09</td>
<td>93.84</td>
<td>92.28</td>
<td>92.09</td>
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<td>91.63</td>
<td>94.96</td>
<td>95.73</td>
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<tr>
<td>4500+g</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>4</td>
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<td>7</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>0</td>
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<tr>
<td>4500+g %</td>
<td>2.08</td>
<td>2.24</td>
<td>0.46</td>
<td>1.9</td>
<td>2.03</td>
<td>3.26</td>
<td>2.7</td>
<td>0.93</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Unknown %</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0.47</td>
<td>0</td>
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### Maternity transfers

<table>
<thead>
<tr>
<th>Transfers</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferred in labour</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Home birth admitted within 24hrs of delivery</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>
Developing capability for women to access own records

- Patient portal
- Improving engagement
Women’s voices

I had no concerns about my records being electronic, it’s what you expect these days.

I didn’t feel that using the I-pad took anything away from my care. It was lovely that the midwife sat in my room to complete her records.

I felt safe knowing that the doctors and midwives had all my information at hand whenever I saw them.

When I had my last baby the midwives were always sat at the desk writing notes. Now they use the I-pad as they go round the ward, it feels like they are more interested in me.

My consultant had written a plan for my care and the staff knew all about this when I arrived.
Technology is helping the whole maternity team to support their patients and offer a comprehensive, seamless service.
#maternity

Julia Gudgeon
Maternity Matron
Nottingham University Hospitals NHS Trust

The King's Fund
Ideas that change health care
Using technology to improve efficiency.
Nottingham

- Population 1,124,800 (30/6/15)
- This figure is an increase of 1.5% (England 0.9%),
- ‘Natural change’ (the excess of births over deaths -40%
  migration-60%)
- The number of births had risen until 2011 but the numbers
  have slowly declined since then.
- Nottingham is ranked 8th most deprived district in England
  in the 2015 Indices of Multiple Deprivation (IMD)
Nottingham University Hospitals NHS Trust Maternity Service

- 9,547 Women gave birth under the care of NUH Midwives (2015/2016)
- 1007 women received intrapartum care only
- Ethnically diverse population
- One of the highest teenage pregnancy rates in the UK
The journey begins...
Safe, Choice & Control...
Modern times, modern care, but no credit cards...
We developed a free to download app Pocket Midwife

Midwives with help from women and birth partners designed & produced an interactive Pregnancy App, free to download.
Features include.... Pregnancy Journey

Week 13

Second Trimester

What’s happening to baby?
The placenta is now well formed and all organs are functioning. Your baby’s head now moves up and down and from side to side.

It is the size of a peach, about 6 to 7cm long and weighs approximately 14-20g.
Contraction counter and contacts page...
All our NUH Maternity Leaflets....

- Breast Feeding Support in Nottingham City
  - Breast feeding support in Nottingham City - guide to
  - View

- Off To The Best Start
  - UNICEF in conjunction with the NHS have produced this guide
  - View

- How to prepare infant formula and sterilise feeding equipment to minimise the risks to your baby
Selfie calendar....
But Why?

Confidence
NHS initiative

Reliable meaningful information relating to their care

Strengthens a respectful relationship by standardising information

Meets the needs of the local population

Accessible
Financial and service improvement benefits
Identified during the pilot

- Leaflets – £11,000 saving
- Reduction in avoidable admissions
  - June 14 to May 15 data suggests we had >1200 avoidable admissions
  - June 15 to May 16 data identifies this has dropped by 42% (>500)
- Information at their convenience not ours, increased engagement
- Early timely information sharing
- Positive re-enforcement
- Informed women are able to maximise their birth potential
- Unnecessary admissions provide Midwives greater time to care for those that need them
The recognitions we have received

Highly commended at NUHonours Awards 2015

Named in the National Maternity Review Feb 16

First Prize for Innovation

Google Play & App Store

Featured on BBC News

4.8

Becka C: ★★★★★
Love it! I do love this app, however some sort of backup would be good as I have just

Dana Charalambous: ★★★★★
I would give this a 5* but think this would be fantastic with a chat room on it

Emm Henshaw: ★★★★★
i love it, particularly like having all the leaflets at hand.

Olivia Smith: ★★★★★
Perfect app for expectant mothers!
“I cannot thank you enough for making this app. I was feeling so alone in the abundance of information that is out there on the internet, thank you, thank you, thank you, this app is amazing and I’m very grateful for it! I just wanted to thank everybody”

Aug 2016
The next steps for us

Collect feedback from users

Develop & Roll out V2

Women

Families

Stakeholders

Personalisation to Trusts
Thank you for listening
#maternity

Refreshment break, exhibition and networking

The King's Fund
Idea that change health care