APPENDIX 3

Clinical Commissioning Group

<table>
<thead>
<tr>
<th>Documents</th>
<th>Date Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Acute Hospitals Travel Impact Analysis (v0.9)</td>
<td>14 December 2016, 8 June 2016 and 6 February 2017</td>
</tr>
<tr>
<td>2) Community Hospitals Travel Impact Analysis (v0.3)</td>
<td></td>
</tr>
<tr>
<td>3) Impact of Integrated Care Communities and stretch assumptions on patient travel to hospital (v 0.2)</td>
<td></td>
</tr>
</tbody>
</table>

Summary of the Documents

1) Acute Hospitals Travel Impact Analysis (V0.9)

This report updates the appendix L to the Pre-Consultation Business Case following refinement of the assumptions used. It does not take account of reductions in acute hospital attendance that will result from the development of Integrated Care Communities across West, North and East Cumbria, nor does it specify travel times related to the possible shift of elective care from Cumberland Infirmary Carlisle to West Cumberland Hospital, or from either site to other locations closer to patients’ homes. Both of these developments would involve significant reductions in travel time for residents affected particularly for those living in West Cumbria.

This report was produced with collaboration and input from NHS Cumbria CCG and North Cumbria University Hospitals Trust.

2) Community Hospitals Travel Impact Analysis (v0.3), (8 June 2016)

Updated version of the Community hospitals appendix K to the Pre Consultation Business Case including capacity maps and covering finished Day Case and Inpatient activity taking place during the period 1 April 2015 – 31 March 2016, excluding any admissions that were not complete until after 31 March 2016.

This report was produced by David Oates, North of England Commissioning Support Unit.

3) Impact of Integrated Care Communities and stretch assumptions on patient travel to hospital (V0.2)

This report considers the impact of Integrated Care Communities and other initiatives on anticipated growth in activity and its effects on additional travel resulting from the preferred options outlined in the West, North and East Cumbria Healthcare for the Future consultation.

This report has been produced by North of England Commissioning Support.
Acute Hospitals Travel Impact Analysis

Date: 14th December 2016
Version: 0.9
Reader note

This report updates the appendix to the Pre-Consultation Business Case following refinement of the assumptions used. It does not take account of reductions in acute hospital attendance that will result from the development of Integrated Care Communities across West, North and East Cumbria, nor does it specify travel times related to the possible shift of elective care from Cumberland Infirmary Carlisle to West Cumberland Hospital, or from either site to other locations closer to patients’ homes. Both of these developments would involve significant reductions in travel time for residents affected particularly for those living in West Cumbria.

Recipients

Success Regime West, North & East Cumbria.

Data Source

Sources

Data was supplied by North Cumbria University Hospitals NHS Trust and is based on A&E attendances for the period 1 April 2015 to 31 March 2016 and inpatient admissions where the person was an inpatient at any time between 1 April 2015 to 31 March 2016, including those still hospital at the end of the period.


Travel distances are calculated using data made available by the Ordnance Survey (OS OpenData) https://www.ordnancesurvey.co.uk/business-and-government/products/os-open-roads.html

Geography

This report covers patients with a recorded address within the geographical boundaries of Cumbria CCG.

Period

Data was supplied in April 2016.

Production

This report has been produced with collaboration and input from NHS Cumbria CCG and North Cumbria University Hospitals Trust. Please ensure this information is not taken out of context

Completion Date

14th December 2016. Updated to allow re-presentation of the data: reinterpretation of the assumptions supplied to treat non elective day cases as zero length of stay rather than 0-1 days, changing numbers of maternity patients moving, separating children’s and adult and stroke A&E attendances, removal of non elective inpatient admissions if the patient had been admitted from the A&E department (as their travel may already have been reported under A&E) and modelling 20% of children’s non elective inpatients moving in Children’s Option 1.
Success Regime: Acute Hospitals Travel Impact Analysis

Introduction

An initial travel impact analysis was undertaken to model the effect of possible changes in the configuration of acute hospital services in Cumberland Infirmary and West Cumberland Hospital. Following further initial engagement and assessment of options, the West, North and East Cumbria Success Regime has refined the assumptions for the options for reconfiguration. This report seeks to reflect these revised assumptions.

Scope and approach

The analysis is based on activity data relating to the location of patients who have used specified NHS services. Data used has been supplied by North Cumbria University Hospitals NHS Trust and is based on:

- A&E attendances for the period 1 April 2015 to 31 March 2016 and
- Inpatient admissions where the person was an inpatient at any time between 1 April 2015 to 31 March 2016, including those still in hospital at the end of the period.

The postcode of the recorded address of the person attending hospital has been pseudonymised and used to calculate the distance by road to the hospital attended. Following this, work was undertaken to model the impact on travel of options to move specified services to Cumberland Infirmary based on activity assumptions / rules supplied.

Modelling assumptions

It has been assumed that patients have travelled to hospital from their home. In some cases, it is likely that the person will have travelled to hospital from another location (such as their place of work). Similarly, trauma cases related to road traffic accidents would be assumed to occur away from a person’s home and therefore the person is likely to be taken to the hospital closest to the accident, which may not be the closest to that person’s home.

Pseudonymised postcodes have been mapped to the nearest travel node (usually well within 400 metres).

Some emergency attendances / admissions will arise while a person is travelling far away from their home (for example while on holiday). For this reason, analysis was restricted to patients with a recorded address within the geographical boundaries of Cumbria CCG.

It is assumed that all roads are available for travel and that the shortest routes are taken.

No account has been made for patients travelling to hospitals other than Cumberland Infirmary and West Cumberland Hospital. Similarly, no allowance has been made for patients choosing to not visit hospital at all following reconfiguration of services.

The number of neonatal spells is low. There is a higher number of Consultant Episodes within a hospital spell but a relatively low number of records with valid postcodes within Cumbria, making modelling assumptions less reliable.
Specific modelling assumptions were provided by Deloitte on behalf of the Success Regime:

- Non-complex activity is assumed to make up 85% of activity except for A&E and maternity where additional assumptions are applied.
- Gynaecology is split 59:41 complex to non-complex. As the scenarios supplied do not include gynaecology but this is a major area of activity, assumptions have been made based on corresponding groups within that option. For example, if 100% of non-elective complex inpatients would in future be treated at Cumberland Infirmary, the travel impact for 59% of non-elective gynaecology inpatients (the proportion deemed to be complex) is shown.
- 69% of West Cumberland Hospital A&E activity is assumed to be non-complex. Varying proportions would in future be treated at Cumberland Infirmary.
- For maternity, 70% is assumed to be non-complex and 30% complex. These proportions have been amended to reflect further guidance provided by North Cumbria University Hospitals NHS Trust.

Admission methods 2A – 2D (‘other’) have been excluded as many relate to transfers from other health settings. For non-elective inpatients, cases have been excluded where the admission method is ‘21’ (Accident and emergency or dental casualty department of the Health Care Provider) as the patient’s travel is likely to have been included in the A&E sections.

The transfer of patients between hospitals is excluded: patients’ journeys are measured from their home address to the first hospital they attend.

As specific rules have not been defined to agree which patients would be classed as complex, it is not possible to pinpoint which individuals would be treated at a different hospital.

It should be noted that Deloitte assumptions were based on 2014/15 position; a number of pathway changes agreed in 2015 and since implemented are also included within assumed shifts in activity.

Due to the lack of reliable data on road speeds to calculate travel times, travel distance in miles is provided as the main focus. An estimate of additional travel time based on an average speed of 35 miles per hour is provided. This speed is based on a very small random sample of journeys (12) tested on Google maps which averaged 34.7mph. Reference to the Department for Transport research ‘Analysis of travel times on local ‘A’ roads, England: 2014’ found that “In 2014, the average speed of vehicles on urban local ‘A’ roads is estimated to be 19.3 mph and on rural local ‘A’ roads is estimated to be 37.2 mph”. This should be considered as a very broad estimate.
BASELINE POSITION

Accident & Emergency
There were 85,101 A&E attendances (all ages) in 2015/16. 78,486 (92.2%) of these related to people whose usual place of residence was recorded as within Cumbria.

Cumberland Infirmary received the majority of these attendances (46,015 or 58.6%). Patients attending Cumberland Infirmary A&E travelled 9.3 miles on average from their home address if they lived in Cumbria.

32,471 people visited West Cumberland Hospital A&E, travelling an average of 7.1 miles from within Cumbria.

INPATIENTS

The following charts summarise the number of cases at each hospital in 2015/16, showing the average miles that patients would have travelled from home. Categories where there are no change plans within the consultation, eg elective day cases, are not shown. Similarly, numbers reflect the assumptions developed, eg admission method ‘21’ has been excluded from non elective inpatient numbers.
In the following tables, RNLBX refers to West Cumberland Hospital.
PROPOSALS

Maternity services

The current assumptions do not specify which individual patients would be affected. However, the following table shows the numbers admitted to West Cumberland Hospital by patient group in 2015/16 and the difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital:

<table>
<thead>
<tr>
<th>WCH Numbers 2015/16</th>
<th>Fewer miles</th>
<th>Less than 10 miles</th>
<th>10-19 miles</th>
<th>20 - 29 miles</th>
<th>30 - 39 miles</th>
<th>40+ miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity (0 LoS)</td>
<td>223</td>
<td>6</td>
<td>2</td>
<td>45</td>
<td>78</td>
<td>92</td>
</tr>
<tr>
<td>Maternity (0 LoS)</td>
<td>223</td>
<td>2.7%</td>
<td>0.9%</td>
<td>20.2%</td>
<td>35.0%</td>
<td>41.3%</td>
</tr>
<tr>
<td>Maternity IP</td>
<td>1397</td>
<td>26</td>
<td>25</td>
<td>293</td>
<td>421</td>
<td>632</td>
</tr>
<tr>
<td>Maternity IP</td>
<td>1397</td>
<td>1.9%</td>
<td>1.8%</td>
<td>21.0%</td>
<td>30.1%</td>
<td>45.2%</td>
</tr>
</tbody>
</table>

Maternity Option 1

This option involves a full range of antenatal and postnatal care at both Cumberland Infirmary and West Cumberland Hospital and the continued option of giving birth at the Penrith Birthing Unit or at home. However, the reduced availability of paediatric expertise at West Cumberland would mean that some higher risk births would take place in Carlisle. These patients would travel a further 26.2 miles on average, incurring almost 45 minutes further travel time at a mean speed of 35mph.

It is estimated that 150 births (0.4 per day) would instead take place at Cumberland Infirmary. The table below models additional travel time based on the data for 2015/16.
<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity - Complex (CLU) inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.8</td>
<td>26.2</td>
<td>150</td>
<td>3930</td>
<td>00:44:55</td>
</tr>
</tbody>
</table>

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 45% of women affected would travel 30 or more additional miles. This equates to 68 women. 30% might be expected to travel 20 to 29 additional miles (approximately 45 women). 3 patients might possibly travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.
Maternity Option 2

Option 2 involves the provision of a consultant-led maternity unit, an alongside midwife-led maternity unit and a special care baby unit at Cumberland Infirmary Carlisle along with a full range of antenatal and postnatal care. At West Cumberland Hospital, it would involve a standalone midwife-led maternity unit for low risk births, open 24 hours a day 365 days a year, with antenatal and postnatal care delivered by both consultants and midwives and with consultants on site between 8am and 8pm. It is anticipated that between 300 and 400 women a year would use the stand alone midwife-led maternity unit at West Cumberland Hospital. National evidence indicates that each year, 25% of women in labour would transfer from a midwife-led unit to a consultant led unit.

A further 964 women would be treated at Cumberland Infirmary compared to Option 1. This equates to an additional 25,237 miles travelled compared to Option 1. 203 emergency caesareans, would move to Cumberland Infirmary. Looking specifically at the locations of patients requiring emergency caesareans in 2015/16 (largely time critical), these women would have travelled an additional 27 miles on average if they were to travel to Cumberland Infirmary instead of West Cumberland Hospital. Four women lived over 60 miles from Cumberland Infirmary. The maximum full journey would take almost 1 hour and 45 minutes for one person if travelling at an average speed of 35 mph. Effective transport arrangements would be required for this group in particular. Many of these women would not have travelled direct to Cumberland Infirmary.

In total, 29,167 miles would be travelled by women moving from West Cumberland Hospital, taking a further 833 hours travel time at an average speed of 35mph. Approximately three patients per day would travel to Cumberland Infirmary.

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity - Complex (CLU) day case</td>
<td>RNLBX</td>
<td>9.1</td>
<td>35.0</td>
<td>25.9</td>
<td>67</td>
<td>1735.3</td>
<td>00:44:24</td>
</tr>
<tr>
<td>Maternity - Complex (CLU) inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.8</td>
<td>26.2</td>
<td>1,047</td>
<td>27431.4</td>
<td>00:44:55</td>
</tr>
</tbody>
</table>

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 502 women affected would travel 30-39 additional miles. 339 might be expected to travel 20 to 29 additional miles. 21 patients might travel fewer miles. It
must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.

**Maternity Option 3**

Option 3 involves the provision of a consultant-led maternity unit, an alongside midwife-led maternity unit and a special care baby unit at Cumberland Infirmary Carlisle along with a full range of antenatal and postnatal care. There would be no births at West Cumberland Hospital but consultants and midwives would give antenatal and postnatal care at this site.

It is likely that up to 100 women may choose to use services at Furness General Hospital in preference to Cumberland Infirmary. However, modelling here assumes that all patients would be treated at Cumberland Infirmary. Based on the data provided, this would lead to 1,464 cases moving to Carlisle, 4 patients per day. These patients would travel a further 26.2 miles on average, incurring a further 44 minutes and 53 seconds travel time at a mean speed of 35mph. In total, this equates to 38,337 additional miles travelled, incurring 1,095 hours additional travel time at an average speed of 35mph.

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity - day case</td>
<td>RNLBX</td>
<td>9.1</td>
<td>35.0</td>
<td>25.9</td>
<td>67</td>
<td>1,735.3</td>
<td>00:44:24</td>
</tr>
<tr>
<td>Maternity - inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.8</td>
<td>26.2</td>
<td>1,397</td>
<td>36,601.4</td>
<td>00:44:55</td>
</tr>
</tbody>
</table>

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 660 women affected would travel 30 or more additional miles. 444 might be expected to travel 20 to 29 additional miles. 28 patients might travel fewer miles. Again, it must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.
Children’s services

The current assumptions do not specify which individual patients would be affected. However, the following table shows the numbers admitted to West Cumberland Hospital by patient group in 2015/16 and the difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital:

<table>
<thead>
<tr>
<th>Difference in miles travelled to CIC vs WCH</th>
<th>WCH Numbers 2015/16</th>
<th>Fewer miles</th>
<th>Less than 10 miles</th>
<th>10-19 miles</th>
<th>20 - 29 miles</th>
<th>30 - 39 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E Aged 0-16</td>
<td>5951</td>
<td>310</td>
<td>106</td>
<td>985</td>
<td>1300</td>
<td>3250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.2%</td>
<td>1.8%</td>
<td>16.6%</td>
<td>21.8%</td>
<td>54.6%</td>
</tr>
<tr>
<td>Paediatrics - NEL inpatient</td>
<td>587</td>
<td>9</td>
<td>13</td>
<td>118</td>
<td>150</td>
<td>297</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5%</td>
<td>2.2%</td>
<td>20.1%</td>
<td>25.6%</td>
<td>50.6%</td>
</tr>
<tr>
<td>Paediatrics – NEL 0 days LoS*</td>
<td>352</td>
<td>7</td>
<td>5</td>
<td>77</td>
<td>98</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.0%</td>
<td>1.4%</td>
<td>21.9%</td>
<td>27.8%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Paediatrics - elective inpatient</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.9%</td>
<td>5.9%</td>
<td>5.9%</td>
<td>23.5%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Paediatrics - EL DC</td>
<td>47</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17.0%</td>
<td>6.4%</td>
<td>10.6%</td>
<td>31.9%</td>
<td>34.0%</td>
</tr>
<tr>
<td>Neonatal services IP</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>28.1%</td>
<td>15.6%</td>
<td>56.3%</td>
</tr>
</tbody>
</table>

Children’s Option 1

This option involves the development of an inpatient paediatric unit based at Cumberland Infirmary Carlisle along with a short stay paediatric assessment unit. At West Cumberland Hospital, Whitehaven there would be a short stay paediatric assessment unit for children requiring short term observation and treatment. There would also be some overnight beds at Whitehaven for children with less acute, low risk illnesses but children who needed more acute inpatient admission would be treated at Carlisle.
It is estimated that 15% of Paediatrics non elective inpatient cases are complex and all of these would be treated at Carlisle. In addition, 20% of the remaining non elective inpatients, 20% of elective inpatients and 20% of neonatal cases would also move to Carlisle.

This would lead to a total of 197 cases moving to Carlisle, 0.5 patients per day. Patients would travel a further 26.7 miles on average, incurring just under 46 minutes additional travel time at a mean speed of 35mph. In total, this equates to 5,267 additional miles travelled, requiring 152 more hours travel at 35mph.

<table>
<thead>
<tr>
<th>Site Description</th>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paediatrics - NEL inpatient Non Complex</td>
<td>RNLBX</td>
<td>7.7</td>
<td>34.6</td>
<td>26.9</td>
<td>100</td>
<td>2690.0</td>
<td>00:46:07</td>
<td>76.9</td>
</tr>
<tr>
<td>Paediatrics - NEL inpatient Complex</td>
<td>RNLBX</td>
<td>7.7</td>
<td>34.6</td>
<td>26.9</td>
<td>88</td>
<td>2367.2</td>
<td>00:46:07</td>
<td>67.6</td>
</tr>
<tr>
<td>Paediatrics – NEL 0 days LoS*</td>
<td>RNLBX</td>
<td>8.0</td>
<td>34.2</td>
<td>26.2</td>
<td>0</td>
<td>0.0</td>
<td>00:00:00</td>
<td>0.0</td>
</tr>
<tr>
<td>Paediatrics - elective inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.6</td>
<td>26.1</td>
<td>3</td>
<td>41.3</td>
<td>00:44:44</td>
<td>2.2</td>
</tr>
<tr>
<td>Neonatal services inpatient</td>
<td>RNLBX</td>
<td>7.5</td>
<td>35.5</td>
<td>28.0</td>
<td>6</td>
<td>168.0</td>
<td>00:48:00</td>
<td>4.8</td>
</tr>
</tbody>
</table>

* Paediatrics – NEL 0 days LoS: This category refers to patients not admitted electively who leave hospital without staying overnight.

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 101 children affected would travel 30 or more additional miles. 50 might be expected to travel 20 to 29 additional miles. 3 patients might travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.
Children’s Option 2

This option involves the development of an inpatient paediatric unit based at Cumberland Infirmary along with a short stay paediatric assessment unit. At West Cumberland Hospital – as with option 1 – there would be a short stay paediatric assessment unit for children requiring short term observation and treatment but there would be no overnight beds at Whitehaven for children. Any child who needed inpatient admission would be admitted to Carlisle. Also, if Emergency and Acute Option 2 is chosen, there would be a daytime only A&E service and a 24/7 urgent care centre, which would see patients overnight with less serious injuries and conditions. The impact of this on children and young people aged 0-16 years is shown.

For modelling purposes, it has been assumed that A&E will operate at West Cumberland Hospital between 8am and 6pm and deals with the same cases during that time as with option 1. Approximately 57.8% of A&E attendances occurred during these times in 2015/16. According to one document quoted (Fin v6.1WCH Med Staff Clin Strategy Props’n.doc), if there was no A&E at WCH, 69% of attendances would still take place at WCH via a minor injuries / illness unit. Therefore, 31% of A&E is deemed complex and this proportion of attendances are moved from those taking place between 6pm and 8am.

All paediatric and neonatal inpatient services would take place in Carlisle.

This option affects 1,415 patients in total, just under 4 patients per day, but a further 1,218 patients compared to Option 1. Patients would travel an additional 27.7 miles on average, taking 47 minutes and 33 seconds travelling at 35mph. This equates to 39,253 additional miles travelled (1,122 hours at 35mph).

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E</td>
<td>RNLBX</td>
<td>6.7</td>
<td>35.1</td>
<td>28.4</td>
<td>779</td>
<td>22123.6</td>
<td>00:48:41</td>
</tr>
<tr>
<td>Paediatrics - NEL inpatient</td>
<td>RNLBX</td>
<td>7.7</td>
<td>34.6</td>
<td>26.9</td>
<td>587</td>
<td>15790.3</td>
<td>00:46:07</td>
</tr>
<tr>
<td>Paediatrics – NEL 0 days LoS*</td>
<td>RNLBX</td>
<td>8.0</td>
<td>34.2</td>
<td>26.2</td>
<td>0</td>
<td>0.0</td>
<td>00:00:00</td>
</tr>
<tr>
<td>Paediatrics - elective inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.6</td>
<td>26.1</td>
<td>17</td>
<td>443.5</td>
<td>00:44:44</td>
</tr>
<tr>
<td>Neonatal services inpatient</td>
<td>RNLBX</td>
<td>7.5</td>
<td>35.5</td>
<td>28.0</td>
<td>32</td>
<td>896.0</td>
<td>00:48:00</td>
</tr>
</tbody>
</table>

* Paediatrics – NEL 0 days LoS: This category refers to patients not admitted electively who leave hospital without staying overnight.
Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 750 children affected would travel 30-39 additional miles. 329 might be expected to travel 20 to 29 additional miles. 51 patients might travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.
Children’s Option 3

This option involves the development of an inpatient paediatric unit based at Cumberland Infirmary along with a short stay paediatric assessment unit. At West Cumberland Hospital, there would be paediatric outpatient services only and no short stay paediatric assessment unit.

If Emergency and Acute Option 3 is chosen (please see section below), there would be no A&E unit at West Cumberland Hospital but there would be a 24/7 urgent care centre which would see patients with less serious injuries and conditions. The impact of this on children and young people aged 0-16 years is shown.

A substantially greater number of children would be affected by this option – 2,880 compared to 1,415 with Option 2. This equates to 7.9 patients per day. 79,515 additional miles would be travelled in total, taking 2,272 hours at an average speed of 35mph.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E</td>
<td>RNLBX</td>
<td>6.7</td>
<td>35.1</td>
<td>28.4</td>
<td>1845</td>
<td>52398.0</td>
<td>00:48:41</td>
<td>1497.1</td>
</tr>
<tr>
<td>Paediatrics - NEL inpatient</td>
<td>RNLBX</td>
<td>7.7</td>
<td>34.6</td>
<td>26.9</td>
<td>587</td>
<td>15790.3</td>
<td>00:46:07</td>
<td>451.2</td>
</tr>
<tr>
<td>Paediatrics – NEL 0 days LoS*</td>
<td>RNLBX</td>
<td>8.0</td>
<td>34.2</td>
<td>26.2</td>
<td>352</td>
<td>9222.4</td>
<td>00:44:55</td>
<td>263.5</td>
</tr>
<tr>
<td>Paediatrics - elective inpatient</td>
<td>RNLBX</td>
<td>8.6</td>
<td>34.6</td>
<td>26.1</td>
<td>17</td>
<td>443.5</td>
<td>00:44:44</td>
<td>12.7</td>
</tr>
<tr>
<td>Paediatrics - EL DC</td>
<td>RNLBX</td>
<td>14.7</td>
<td>30.9</td>
<td>16.3</td>
<td>47</td>
<td>764.7</td>
<td>00:27:53</td>
<td>21.8</td>
</tr>
<tr>
<td>Neonatal services IP</td>
<td>RNLBX</td>
<td>7.5</td>
<td>35.5</td>
<td>28.0</td>
<td>32</td>
<td>896.0</td>
<td>00:48:00</td>
<td>25.6</td>
</tr>
</tbody>
</table>

* Paediatrics – NEL 0 days LoS: This category refers to patients not admitted electively who leave hospital without staying overnight.

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 1514 children affected would travel 30 or more additional miles. 675 might be expected to travel 20 to 29 additional miles. 515 patients would travel 10-19 miles further. 121 patients might travel fewer miles. It must be noted that this should be seen as an estimate for A&E services where only a proportion of patients would be affected. This would be subject to variation as the actual patients affected have not been specified.
Emergency and acute care

For A&E attendances, this section refers to adult cases only. Children’s A&E is included in the children’s services section of this report.

The current assumptions do not specify which individual patients would be affected. However, the following table shows the numbers admitted to West Cumberland Hospital by patient group in 2015/16 and the difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital:

<table>
<thead>
<tr>
<th>WCH Numbers 2015/16</th>
<th>Difference in miles travelled to CIC vs WCH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fewer miles</td>
</tr>
<tr>
<td>A&amp;E Aged 17 Plus</td>
<td>26094</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Non elective (0 LoS)*</td>
<td>953</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Non elective IP</td>
<td>1,039</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective inpatient</td>
<td>1437</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynaecology - elective IP</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynaecology - NEL (0 LoS)*</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynaecology - NEL inpatient</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* NEL 0 days LoS: This category refers to patients not admitted electively who leave hospital without staying overnight.
Emergency and Acute Option 1

Option 1 involves a 24/7 A&E at Cumberland Infirmary Carlisle along with acute medical inpatient services, including for the most complex cases. There would also be a 24/7 A&E at West Cumberland Hospital along with acute medical inpatient services and rehabilitation. There would also be a small intensive care unit. Some of the most seriously ill patients would be treated at Carlisle if it was felt they would benefit from the extra support available there. However, much of this change in activity already occurs with decisions made by consultants on an individual patient’s basis.

This option involves reducing complexity at this site. It is estimated that 15% of the most complex inpatient cases would be treated at Cumberland Infirmary rather than West Cumberland Hospital. Gynaecology is included separately to reflect a different split between complex & non-complex activity (59:41). Hyper acute stroke services are excluded from this option as they are considered further in another option below. This option does not involve any change in A&E attendances.

580 people are affected in total, approximately 1.6 people per day. This would involve travelling an additional 10,788 miles in total, requiring an estimated 308 hours travel at an average speed of 35mph.

<table>
<thead>
<tr>
<th>Site</th>
<th>Non elective inpatient Complex</th>
<th>Elective Complex inpatient</th>
<th>Gynaecology - elective inpatient</th>
<th>Gynaecology - NEL inpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Aver. miles to WCH</td>
<td>8.8</td>
<td>17.4</td>
<td>11.4</td>
<td>8.3</td>
</tr>
<tr>
<td>Site Aver. miles to CIC</td>
<td>33.7</td>
<td>28.3</td>
<td>32.5</td>
<td>35.3</td>
</tr>
<tr>
<td>Extra miles to CIC</td>
<td>26.4</td>
<td>10.9</td>
<td>21.1</td>
<td>27.0</td>
</tr>
<tr>
<td>No. of people affected</td>
<td>156</td>
<td>216</td>
<td>182</td>
<td>26</td>
</tr>
<tr>
<td>Total additional miles travelled to CIC (ave)</td>
<td>3884.4</td>
<td>2361.4</td>
<td>3,840.56</td>
<td>702.0</td>
</tr>
<tr>
<td>Est additional travel time per journey @35mph</td>
<td>00:42:41</td>
<td>00:18:44</td>
<td>00:36:10</td>
<td>00:46:17</td>
</tr>
<tr>
<td>Est total additional travel time to CIC @35mph in hours</td>
<td>111.0</td>
<td>67.5</td>
<td>109.7</td>
<td>20.1</td>
</tr>
</tbody>
</table>

Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 242 patients would travel 30 or more additional miles if their service was affected under option 1. 124 might be expected to travel 20 to 29 additional miles. 93 patients might travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.
Emergency and Acute Option 2

Option 2 involves a 24/7 A&E at Cumberland Infirmary and acute medical inpatient services with extra capacity at night and for more complex cases. There would be assessment and inpatient beds for the frail elderly, as well as specialist rehabilitation. The number of inpatient beds and intensive care beds would increase, as would the number of emergency assessment unit beds.

At West Cumberland Hospital, there would be a daytime only A&E service and a 24/7 urgent care centre which would see patients overnight with less serious injuries and conditions. Selected patients would be admitted by emergency ambulance and through referral from their GP during the day. There would be no intensive care unit at Whitehaven but there would be support from specialist clinicians for any very sick patients in order to provide immediate care prior to transfer. There would a number of assessment and in-patient beds including beds for the frail elderly who are medically stable and for rehabilitation.

For modelling purposes, it has been assumed that A&E will operate at West Cumberland Hospital between 8am and 6pm and deals with the same cases during that time as with option 1. Approximately 57.8% of A&E attendances occurred during these times in 2015/16. According to one document quoted (Fin v6.1WCH Med Staff Clin Strategy Props’n.doc), if there was no A&E at WCH, 69% of attendances would still take place at WCH via a minor injuries / illness unit. Therefore, 31% of A&E is deemed complex and this proportion of attendances are moved from those taking place between 6pm and 8am. Hyper acute stroke services are excluded from this option as they are considered further in another option below.

This option affects 3,694 patients in total, 10.1 patients per day. This is 3,114 more than in Option 1 due to the reductions in provision of A&E. This leads to 97,882 additional miles travelled in total, taking an estimated 2797 additional travel hours at an average speed of 35mph.

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E Type I</td>
<td>RNLBX</td>
<td>7.1</td>
<td>35.1</td>
<td>28.0</td>
<td>3,114</td>
<td>87093.9</td>
<td>00:47:57</td>
</tr>
<tr>
<td>Non elective inpatient Complex</td>
<td>RNLBX</td>
<td>8.8</td>
<td>33.7</td>
<td>24.9</td>
<td>156</td>
<td>3884.4</td>
<td>00:42:41</td>
</tr>
<tr>
<td>Elective Complex inpatient</td>
<td>RNLBX</td>
<td>17.4</td>
<td>28.3</td>
<td>10.9</td>
<td>216</td>
<td>2361.4</td>
<td>00:18:44</td>
</tr>
<tr>
<td>Gynaecology - elective inpatient</td>
<td>RNLBX</td>
<td>11.4</td>
<td>32.5</td>
<td>21.1</td>
<td>182</td>
<td>3,840.56</td>
<td>00:36:10</td>
</tr>
<tr>
<td>Gynaecology - NEL inpatient</td>
<td>RNLBX</td>
<td>8.3</td>
<td>35.3</td>
<td>27.0</td>
<td>26</td>
<td>702.0</td>
<td>00:46:17</td>
</tr>
</tbody>
</table>
Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 1878 of these patients would travel 30 or more additional miles. 852 might be expected to travel 20 to 29 additional miles. 615 patients might be expected to travel 10 to 19 additional miles. 276 patients might travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation due to the relatively small numbers in the sample population.

**Emergency and Acute Option 3**

Option 3 involves a significantly expanded 24/7 A&E at Cumberland Infirmary equipped to care for all patients brought in by emergency ambulance. It would also care for the majority of GP referrals. The number of emergency assessment unit, inpatient, and intensive care beds would increase to manage all acutely ill patients in this area.

At West Cumberland Hospital there would be no A&E unit and no intensive care unit but there would be a 24/7 urgent care centre which would see patients with less serious injuries and conditions. The urgent care centre and outpatient services for those not requiring admission would be supported by specialist clinicians in the daytime but there would be no overnight care for acutely unwell patients. Medically stable frail elderly patients could be admitted as inpatients, and there would also be assessment services for the frail elderly along with rehabilitation beds.

This option affects 9,380 patients, approximately 25.7 people per day. These patients would travel an additional 255,339 miles, incurring an additional 9807 hours of travel at an average speed of 35mph. This represents an increase of 5,686 patients affected and an additional 157,457 miles compared to Option 2.
Using the profile of difference in miles to travel from home to Cumberland Infirmary compared to West Cumberland Hospital, it might be estimated that 4835 of these patients would travel 30-39 additional miles. 2205 might be expected to travel 20 to 29 additional miles and 1579 patients might travel 10 to 19 additional miles. 583 patients might travel fewer miles. It must be noted that this should be seen as a very broad estimate that would be subject to variation as the actual patients affected have not been specified.

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gynaecology - NEL (0 LoS)*</td>
<td>RNLBX</td>
<td>8.1</td>
<td>32.7</td>
<td>24.6</td>
<td>5</td>
<td>123.0</td>
<td>00:42:10</td>
</tr>
<tr>
<td>Gynaecology - NEL inpatient</td>
<td>RNLBX</td>
<td>8.3</td>
<td>35.3</td>
<td>27.0</td>
<td>26</td>
<td>702.0</td>
<td>00:46:17</td>
</tr>
</tbody>
</table>

* NEL 0 days LoS: This category refers to patients not admitted electively who leave hospital without staying overnight.
**Hyper-acute stroke services**

There were 628 admissions for stroke in 2015/16. 260 of these people started treatment at West Cumberland Hospital.

**Hyper-Acute Stroke Option 1**

Option 1 would largely maintain services as they are now but the service would be enhanced by ensuring improved, early supported discharge in both Carlisle and Whitehaven. This option has no travel impact.

**Hyper-Acute Stroke Option 2**

Option 2 would see all acute stroke cases managed in a single hyper-acute stroke unit based at Cumberland Infirmary, prior to moves into a stroke unit for further treatment and rehabilitation (both sites).

362 A&E attendances for suspected stroke transported by emergency ambulance would be diverted from West Cumberland Hospital to Cumberland Infirmary under this option. 260 inpatients from West Cumbria would move their care from West Cumberland Hospital to Carlisle. It is likely that the majority of these patients will have attended A&E so their additional journey will have been included already. The inpatient figures are based on actual strokes and do not include those patients who show symptoms like stroke but turn out not to have had a stroke. The modelling for this option excludes the impact of those who later on in their care were identified as having had a stroke. People lived 8.1 miles from West Cumberland Hospital on average. Receiving first treatment at Cumberland Infirmary involves a further 26.1 miles’ journey on average, taking 44 minutes and 44 seconds additional time travelling at 35 mph. In total, this option leads to 16,231 additional miles travelled per year, taking approximately 464 hours at a speed of 35mph.

<table>
<thead>
<tr>
<th>Site</th>
<th>Ave. miles to WCH</th>
<th>Ave. miles to CIC</th>
<th>Extra miles to CIC</th>
<th>No. of people affected (move to CIC)</th>
<th>Total additional miles travelled to CIC (ave)</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est total additional travel time to CIC @35mph in hours</th>
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</thead>
<tbody>
<tr>
<td>A&amp;E stroke attendances via ambulance</td>
<td>RNLBX</td>
<td>8.2</td>
<td>34.2</td>
<td>26.0</td>
<td>362</td>
<td>9415.7</td>
<td>00:44:35</td>
</tr>
<tr>
<td>NEL inpatients</td>
<td>RNLBX</td>
<td>8.1</td>
<td>34.3</td>
<td>26.2</td>
<td>260</td>
<td>6815.0</td>
<td>00:44:56</td>
</tr>
</tbody>
</table>
Trauma and Emergency General Surgery

The travel impact has not been modelled as these pathways are already in place. However for reader information, the volumes of transfers from West Cumberland Hospital to Cumberland Infirmary Carlisle in 2015/16 were as shown below. The category ‘other’ includes patients with problems where the speciality inpatient beds have always been in Carlisle (e.g. inpatient renal and range of other specialist services) plus those patients where an individual decision has been made that they would benefit from transfer to Carlisle. It is noted that for trauma and emergency general surgery some activity can now be safely returned to the West Cumberland Hospital – this is expected to be approximately 150 trauma and 200 new general surgery cases, and will have a positive impact on miles travelled.

<table>
<thead>
<tr>
<th>Category</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>234</td>
</tr>
<tr>
<td>GI Bleed</td>
<td>67</td>
</tr>
<tr>
<td>Respiratory</td>
<td>12</td>
</tr>
<tr>
<td>Trauma</td>
<td>517</td>
</tr>
<tr>
<td>Emerg. general and other surgery (e.g. ENT, Maxillofacial)</td>
<td>548</td>
</tr>
<tr>
<td>Other</td>
<td>461</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1839</strong></td>
</tr>
</tbody>
</table>
Elective activity

The consultation proposes that some further non-complex day case and inpatient surgery can be returned to West Cumberland Hospital. If, for example, the 5% of people who lived closest to Whitehaven and treated as elective day cases at Cumberland Infirmary were treated at West Cumberland Hospital, this would lead to reduced travel for 1,043 people saving a total of 37,209 miles. It is unlikely that all of these patients could be treated at West Cumberland Hospital as it may not be appropriate to do so in all cases.

Similarly, there is significant outpatient activity at the Cumberland Infirmary which provides care for patients living in West Cumbria postcodes (more than 30,000 attendances per year). In the proposals it is expected that a proportion of outpatient care will be provided in more local settings including West Cumberland Hospital, Community Hospitals, and Health Centres, with some activity being managed in different ways which prevents the need to attend hospital.

Whilst this is not within scope of this travel impact analysis, once it can be modelled and taken into account, the impact overall would be expected to be significantly positive.
ACUTE HOSPITALS TRAVEL IMPACT ANALYSIS: ACCOMPANYING NOTE

BACKGROUND

The original travel impact analysis was produced to support the PCBC in May. This was based on assumptions supplied by Deloitte. Following the development of the public consultation document and options detailed within it, it was identified that some amendments to the travel impact analysis would be required to reflect changes in the assumptions used.

KEY CHANGES TO THE PUBLISHED TRAVEL IMPACT ANALYSIS REPORT

Children’s and Neonates services:

- Use of 20% cases affected in Option 1 instead of 80% originally proposed in error in assumptions.

Maternity services:

- Use of specific numbers of cases affected as proposed in the Consultation instead of the original percentage assumptions supplied.

Treatment of ‘day cases’ (all sections):

- This term was used in the original modelling in both elective and non-elective instances. Non-elective Day Case does not exist within the NHS data dictionary, but as we could not apply more specific rules, the Emergency Short Stay Tariff that includes stays of 0 or 1 days was used. Figures have been amended to include only zero length of stay as a Day Case. This was applied in both non elective and elective instances.

A&E:

- No patients are affected in Option 1 (Original assumption was 10% but this was based on 2014/15 figures with changes having already occurred since then)-
- Children’s attendances (0-16 years) moved to the children’s services section.
- Stroke attendances: a list of attendance numbers at WCH was supplied by NCUHT. This was matched to A&E data previously supplied. These records were removed from the A&E dataset and specific distances travelled are shown in the Hyper-acute stroke services section.

Hyper-acute stroke services:

- A&E attendances were calculated and removed from the Emergency and Acute section as described above. It is noted that in the preferred option ambulances would take patients direct to CIC, but that a number of patients would continue to present at WCH.
• An aggregate number for inpatients (260) was supplied by the Trust. As the diagnosis was not available in the dataset supplied, it was not possible to match this. Therefore HRG codes AA22A and AA22B were used to calculate average distances for patients and adjusted to reflect 260 patients.

• For the additional miles modelled for NEL admissions it is likely that the large majority of these are already ‘counted’ in the A&E modelling, but recognised that some may be admitted directly.

Non-elective inpatients:

• Excluded cases where the admission method is ‘21’ (Accident and emergency or dental casualty department of the Health Care Provider) as the patient’s travel has already been included in the A&E sections. It is noted however that a number of these patients may be required to transfer by ambulance to CIC from WCH, although such transfers are not modelled in this work. Notes added to acknowledge that, if A&E Option 1 is adopted, additional in-hospital transfers may take place that are not within the scope of this work.

Range of additional miles travelled:

• For most POD’s, a proportion ranging from 1.5% to 29.4% would actually travel fewer miles if they were treated at Cumberland Infirmary. There may be another reason (clinical or patient preference) why the patient was treated at West Cumberland Hospital. These cases lower the average difference in miles travelled. Showing ranges highlights the number of patients who would travel 30 or more additional miles but no patients travel 40 additional miles.

Wording:

• Removal of the word ‘transfer’ to emphasise that the travel impact analysis does not consider transfers between hospitals.

SUMMARY

The following table quantifies the main differences between the revisions to the Acute Hospitals Travel Impact Analysis completed in December 2016 and the version that was published as part of the consultation. The greatest changes relate to:

• Treating all day case assumptions as 0 length of stay,
• No A&E moves in Opt 1,
• Moving children’s A&E to the children’s section,
• Excluding non-elective admissions when the admission method states that the patient was admitted from A&E.
<table>
<thead>
<tr>
<th></th>
<th>Consultation document</th>
<th>Revised Dec 2016</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of people affected</td>
<td>Total additional miles travelled to CIC (ave)</td>
<td>No. of people affected</td>
</tr>
<tr>
<td>Maternity Option 1</td>
<td>489</td>
<td>12816.5</td>
<td>150</td>
</tr>
<tr>
<td>Maternity Option 2</td>
<td>708</td>
<td>18652.7</td>
<td>1114</td>
</tr>
<tr>
<td>Maternity Option 3</td>
<td>1058</td>
<td>27980.1</td>
<td>1464</td>
</tr>
<tr>
<td>Children’s Option 1</td>
<td>102</td>
<td>2791.6</td>
<td>197</td>
</tr>
<tr>
<td>Children’s Option 2</td>
<td>337</td>
<td>9192.8</td>
<td>1415</td>
</tr>
<tr>
<td>Children’s Option 3</td>
<td>1713</td>
<td>45385.5</td>
<td>2880</td>
</tr>
<tr>
<td>Emergency and Acute Option 1</td>
<td>4086</td>
<td>110579.8</td>
<td>580</td>
</tr>
<tr>
<td>Emergency and Acute Option 2</td>
<td>6964</td>
<td>191073.2</td>
<td>3694</td>
</tr>
<tr>
<td>Emergency and Acute Option 3</td>
<td>13854</td>
<td>379632.0</td>
<td>9380</td>
</tr>
<tr>
<td>Hyper-Acute Stroke Option 2</td>
<td>260</td>
<td>6815.0</td>
<td>622</td>
</tr>
</tbody>
</table>

The actual changes in miles travelled as a result of refining the assumptions would depend on the options finally selected. If the Success Regime preferred options are selected for instance (Maternity Option 2, Children’s Option 1, Emergency and Acute Option 1, Hyper-Acute Stroke Option 2), there would be a reduction between versions of 2,643 patients affected and 77,387 fewer additional miles.
Community Hospitals: Travel Impact Analysis

Author: David Oates
Date: 8th June 2016
Version: 0.3
Report Specification

Recipients

Success Regime West, North & East Cumbria.

Data Source

Sources

Data was sourced from the Secondary Uses Service data already available to NECS for the period 1 April 2015 to 31 March 2016. It covers finished day case and inpatient activity taking place during this period so excludes any admissions that were not complete until after 31 March 2016.


Travel distances are calculated using data made available by the Ordnance Survey (OS OpenData)

Avoidable Mortality in Cumbria – A Review of 73 Fatal Road Traffic Collisions, Centre for Public Health, Liverpool John Moores University

Geography

This report covers patients with a recorded address within the geographical boundaries of Cumbria CCG.

Period

Data was obtained on 9 May 2016.

Production

Produced by

David Oates, Clinical Commissioning Intelligence Specialist, david.oates@nhs.net

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Reviewed by

Allan Worthy, Clinical Commissioning Intelligence Specialist, allan.worthy@nhs.net

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Completion Date

8 June 2016

Saved in

\I:\CCG Specific\O1H - CUMBRIA\Success Regime\Summary
Success Regime: Community Hospital Beds Travel Impact Analysis

Introduction

North of England Commissioning Support Unit has been asked to undertake an initial travel impact analysis to model the effect of possible changes in the configuration of nine community hospital sites managed by Cumbria Partnership NHS Foundation Trust (CPFT). Following further initial consultation, the West, North and East Cumbria Success Regime has requested revisions:

- exclude inpatient cases with zero days length of stay recorded
- exclude oral surgery cases (previously identified separately)
- to specify which hospital each patient would attend in addition to identifying additional travel details.

In addition, capacity of hospital sites is examined for each option. There is a reduction in capacity to 104 beds across all options compared to the current position which is 130 beds, although some of these are not in use due to resource issues. This is a risk until ICC hubs are established that can help people maintain their health and independence.

Scope and approach

The analysis is based on activity data relating to the location of patients who have used community hospital beds provided by CPFT during the period 1 April 2015 to 31 March 2016.

The postcode area, district, sector and first digit of unit of the recorded address of the person attending hospital has been used to calculate the distance by road to the hospital attended. Following this, work was undertaken to model the impact on travel if the community hospital used was not available. In this instance, the community hospital nearest to the patient’s home address was selected.

NECS was asked to model a range of options:

1. Minimal consolidation of beds to six sites across WNE Cumbria
2a. Consolidation around 5 sites (including Cockermouth) with effective use of other sites
2b. Consolidation around 5 sites (including Workington) with effective use of other sites
3. Consolidation around 3 sites with effective use of other sites.

Modelling assumptions

The models include people who attended given community hospitals for geriatric medicine. This covers a wide range of diagnoses (over 500 distinct categories). Differences are modelled only for patients whose existing site would be no longer available.

In all options, it is assumed that patients would attend the nearest available site if the hospital they had used was not available.
It has been assumed that patients have travelled to hospital from their home. It is likely that, in many cases, the person will have travelled to hospital from another location, particularly another hospital (please see the Baseline Position below).

For reasons of confidentiality, we did not have access to patients’ home addresses, so truncated postcodes have been mapped to the nearest travel node (usually within 400 metres).

Some admissions will arise while a person is travelling far away from their home (for example while on holiday). For this reason, analysis was restricted to patients with a recorded address within the geographical boundaries of Cumbria CCG. Data was sourced from the Secondary Uses Service data already available to NECS.

For model 3, it is assumed that "Carlisle New Site" will be colocated at the Carleton Site in Carlisle. It is assumed that all roads are available for travel and that the shortest routes are taken.

It was not possible to include 28 records in the travel impact analysis due to either an invalid postcode being recorded or the individual having an address outside of Cumbria. This equates to 1.2% of admissions overall so is not significant. 8 of these records relate to the Copeland Unit at West Cumberland Hospital which remains in each of the options (reducing those records without a location to c0.8%). A further 8 relate to Alston admissions and 5 were recorded at Penrith Hospital (both sites being likely to serve patients from the neighbouring county).

Due to the lack of reliable data on road speeds to calculate travel times, distance to travel in miles is provided as the main focus. An estimate of additional travel time based on an average speed of 35 miles per hour is provided. This speed is based on a very small random sample of journeys (12) tested on Google maps which averaged 34.7mph. Reference to the Department for Transport research ‘Analysis of travel times on local ‘A’ roads, England: 2014’ found that “In 2014, the average speed of vehicles on urban local ‘A’ roads is estimated to be 19.3 mph and on rural local ‘A’ roads is estimated to be 37.2 mph”. This should be considered as a very broad estimate. Further work could be undertaken to better estimate travel times at a later date if required.

**BASELINE POSITION**

In 2015/16, there were 2217 admissions to the community hospitals. This excludes 92 admissions for oral surgery at Workington Community Hospital and 28 cases without location data as noted in the Modelling assumptions. If inpatient cases with zero days length of stay recorded are removed, this figure reduces to 1996.

1641 (82.2%) admissions were non-emergency transfers from another hospital (presumably step down). Whilst travel impact may be less of a factor in these instances, travel for friends and family visiting the patient will be a factor. As the address of relatives is not available, the postcode of the patient is used in all cases (assuming that many who visit a patient may live at the same address or close by). 357 (17.9%) people were admitted from their usual place of residence.
The following map shows the location from which patients travelled to each community hospital in 2015/16. It is important to note that there are a number of cases where patients were not placed in their nearest hospital. This may be due to lack of capacity at the nearest hospital. It should also be noted that these markers cannot reflect the number of people admitted from that location. This can be one or many people.
Community Hospital Activity April 2015 to 31 March 2016

Numbers of admissions in the year vary from 105 at Alston Hospital to 339 at Copeland. Perhaps relevant for visitors, the average length of stay in a community hospital was 21 days. There is a wide variation in length of stay from 12.8 days at Cockermouth Hospital to almost 34 days at Wigton.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No of admissions</th>
<th>%</th>
<th>Average of Length Of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td>8.5%</td>
<td>25.9</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td>13.0%</td>
<td>12.8</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td>7.3%</td>
<td>23.0</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>13.1%</td>
<td>16.4</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>2.7%</td>
<td>18.8</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td>16.5%</td>
<td>26.5</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td>15.7%</td>
<td>19.6</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>8.7%</td>
<td>33.9</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY</td>
<td>275</td>
<td>14.4%</td>
<td>16.9</td>
</tr>
<tr>
<td>Hospital</td>
<td>No of admissions</td>
<td>%</td>
<td>Average of Length Of Stay</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------</td>
<td>-----</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1996</td>
<td>100.0%</td>
<td>21.0</td>
</tr>
</tbody>
</table>

Average distance travelled to community hospitals from home 2015/16

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No of admissions</th>
<th>Average distance from home (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td>9.5</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td>4.4</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td>7.3</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>4.0</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>12.6</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td>6.3</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td>5.0</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>7.5</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY</td>
<td>275</td>
<td>2.2</td>
</tr>
<tr>
<td>Hospital</td>
<td>No of admissions</td>
<td>Average distance from home (miles)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1996</td>
<td>5.8</td>
</tr>
</tbody>
</table>
Option 1: Minimal consolidation of beds to six sites across WNE Cumbria

This option maintains community hospitals at Workington, Keswick, Penrith, Brampton, Copeland and Cockermouth. This is the least change option. This option affects 472 people with an estimated 1680 additional miles to travel to the nearest community hospital (estimate 48 hours). The greatest impact relates to patients who previously would have been cared for in Wigton Hospital:

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No of admissions</th>
<th>Baseline average distance from home (Miles)</th>
<th>No. of patients affected</th>
<th>Average Miles travelled to nearest available site</th>
<th>Average Additional miles travelled</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est. Total Additional miles travelled</th>
<th>Est total additional travel time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>4.0</td>
<td>218</td>
<td>6.3</td>
<td>2.5</td>
<td>00:04:17</td>
<td>545.0</td>
<td>15.6</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>12.6</td>
<td>105</td>
<td>14.0</td>
<td>1.3</td>
<td>00:02:14</td>
<td>136.5</td>
<td>3.9</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>7.5</td>
<td>149</td>
<td>14.1</td>
<td>6.7</td>
<td>00:11:29</td>
<td>998.3</td>
<td>28.5</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1996</td>
<td>5.8</td>
<td>472</td>
<td>6.5</td>
<td>3.5</td>
<td>00:18:00</td>
<td>1680</td>
<td>48.0</td>
</tr>
</tbody>
</table>
The following table shows which hospital these people would attend if they were transferred to the next nearest hospital:

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>No Change</th>
<th>Brampton Hospital</th>
<th>Cockermouth Hospital</th>
<th>Keswick Hospital</th>
<th>Penrith Hospital</th>
<th>Workington CH</th>
<th>Copeland (WCH)</th>
<th>Total admissions (Model 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>292</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>397</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>172</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>3</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td>158</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>67</td>
<td></td>
<td></td>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>397</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>305</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>41</td>
<td>82</td>
<td>5</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>433</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1524</strong></td>
<td><strong>111</strong></td>
<td><strong>131</strong></td>
<td><strong>5</strong></td>
<td><strong>58</strong></td>
<td><strong>158</strong></td>
<td><strong>9</strong></td>
<td><strong>1996</strong></td>
</tr>
</tbody>
</table>
The maps below shows where patients who had previously used Maryport, Alston or Wigton hospitals would transfer if they attended the next nearest hospital. Please note: a point may represent more than one person attending from that location.
The following table shows bed days used if these people moved to the above hospitals and stayed for the same lengths of time. There would be likely to be capacity issues at all sites, except Keswick:

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>Total bed days (Model 1)</th>
<th>Bed capacity (Model 1)</th>
<th>Max bed days</th>
<th>Est Occupancy based on current LoS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>7601</td>
<td>16</td>
<td>5840</td>
<td>130.2%</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>6761</td>
<td>16</td>
<td>5840</td>
<td>115.8%</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>4002</td>
<td>16</td>
<td>5840</td>
<td>68.5%</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>10370</td>
<td>24</td>
<td>8760</td>
<td>118.4%</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>5963</td>
<td>16</td>
<td>5840</td>
<td>102.1%</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>7240</td>
<td>16</td>
<td>5840</td>
<td>124.0%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>41937</strong></td>
<td><strong>104</strong></td>
<td><strong>37960</strong></td>
<td><strong>110.5%</strong></td>
</tr>
</tbody>
</table>
Option 2: Consolidation around 5 sites, including Cockermouth

This option maintains community hospitals at Copeland (32 beds), Cockermouth (16 beds), Penrith (24 beds), Brampton (16 beds) and Keswick (16 beds). This option affects 747 people with an estimated 3698 additional miles to travel to the nearest community hospital (estimate 106 additional hours). There is a substantial impact for the people who would have used Workington due to the relatively large numbers using this site. The average travel times for people who would have used Maryport Hospital also increases compared to option 1 as many would have moved to Workington.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No of admissions</th>
<th>Average miles from home</th>
<th>No. of patients affected</th>
<th>Average Miles travelled to nearest available site</th>
<th>Average Additional miles travelled</th>
<th>Est additional travel time time per journey @35mph</th>
<th>Est. Total Additional miles travelled</th>
<th>Est total additional travel time time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>4.0</td>
<td>218</td>
<td>8.1</td>
<td>4.3</td>
<td>00:07:25</td>
<td>942.6</td>
<td>26.9</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>12.6</td>
<td>105</td>
<td>14.0</td>
<td>1.3</td>
<td>00:02:14</td>
<td>136.8</td>
<td>3.9</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>7.5</td>
<td>149</td>
<td>14.1</td>
<td>6.7</td>
<td>00:11:27</td>
<td>994.7</td>
<td>28.4</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>275</td>
<td>2.2</td>
<td>275</td>
<td>8.1</td>
<td>5.9</td>
<td>00:10:08</td>
<td>1,624.3</td>
<td>46.4</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1996</strong></td>
<td><strong>5.8</strong></td>
<td><strong>747</strong></td>
<td><strong>7.6</strong></td>
<td><strong>4.9</strong></td>
<td><strong>00:00:00</strong></td>
<td><strong>3698</strong></td>
<td><strong>106</strong></td>
</tr>
</tbody>
</table>
The following table shows which hospital these people would attend if they were transferred to the next nearest hospital:

### Nearest Hospital Model 2

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>No Change</th>
<th>Brampton Hospital</th>
<th>Cockermouth Hospital</th>
<th>Keswick Hospital</th>
<th>Penrith Hospital</th>
<th>Copeland (WCH)</th>
<th>Total admissions (Model 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>292</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>694</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>172</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>3</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>397</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>441</td>
<td></td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>41</td>
<td>82</td>
<td></td>
<td>5</td>
<td></td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>153</td>
<td></td>
<td></td>
<td></td>
<td>122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>1249</td>
<td>111</td>
<td>428</td>
<td>5</td>
<td>58</td>
<td>145</td>
<td>1996</td>
</tr>
</tbody>
</table>
The maps below show where patients who had previously used Workington, Maryport, Alston or Wigton hospitals would transfer if they attended the next nearest hospital. Please note: a point may represent more than one person attending from that location.
The following table shows bed days used if these people moved to the above hospitals and stayed for the same lengths of time. There would be likely to be capacity issues at a number of sites, particularly Brampton and Cockermouth. It is likely that some of those patients whose nearest hospital would be Cockermouth would need to be admitted into the increased capacity created in the Copeland Unit at West Cumberland Hospital:

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>Total bed days (Model 2)</th>
<th>Bed capacity (Model 2)</th>
<th>Max bed days</th>
<th>Est Occupancy based on current LoS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>7601</td>
<td>16</td>
<td>5840</td>
<td>130.2%</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>11873</td>
<td>16</td>
<td>5840</td>
<td>203.3%</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>4002</td>
<td>16</td>
<td>5840</td>
<td>68.5%</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>10370</td>
<td>24</td>
<td>8760</td>
<td>118.4%</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>8091</td>
<td>32</td>
<td>11680</td>
<td>69.3%</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>41937</td>
<td>104</td>
<td>37960</td>
<td>110.5%</td>
</tr>
</tbody>
</table>
Option 3: Consolidation around 5 sites, including Workington

This option maintains community hospitals at Copeland (32 beds), Workington (16 beds), Penrith (24 beds), Brampton (16 beds) and Keswick (16 beds). This option affects 738 people with an estimated 2858 additional miles to travel to the next nearest community hospital (estimate 81.7 hours). When compared with option 2, it can be seen to have a detrimental effect for those who would have previously been admitted to Wigton Hospital (an average increase of 1.3 miles). However, the average travel times for people who would have used Maryport Hospital reduces by a similar amount and, overall, this model incurs a lower travel impact than option 2.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Number of Admissions</th>
<th>Baseline average distance from home (Miles)</th>
<th>No. of patients affected</th>
<th>Average Miles travelled to nearest available site</th>
<th>Average Additional miles travelled</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est. Total Additional miles travelled</th>
<th>Est total additional travel time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td>4.4</td>
<td>266</td>
<td>7.8</td>
<td>3.3</td>
<td>00:05:38</td>
<td>873.0</td>
<td>24.9</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>4.0</td>
<td>218</td>
<td>6.7</td>
<td>3.0</td>
<td>00:05:09</td>
<td>654.0</td>
<td>18.7</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>12.6</td>
<td>105</td>
<td>14.0</td>
<td>1.3</td>
<td>00:02:18</td>
<td>140.8</td>
<td>4.0</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>7.5</td>
<td>149</td>
<td>15.4</td>
<td>8.0</td>
<td>00:13:41</td>
<td>1,190.0</td>
<td>34.0</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1996</strong></td>
<td><strong>5.8</strong></td>
<td><strong>738</strong></td>
<td><strong>7.1</strong></td>
<td><strong>3.8</strong></td>
<td><strong>00:26:46</strong></td>
<td><strong>2857.8</strong></td>
<td><strong>81.7</strong></td>
</tr>
</tbody>
</table>
The following table shows which hospital these people would attend if they were transferred to the next nearest hospital. It can be seen that there is a substantially increased demand placed on Workington Community Hospital:

### Nearest Hospital Model 3

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>No Change</th>
<th>Brampton Hospital</th>
<th>Keswick Hospital</th>
<th>Penrith Hospital</th>
<th>Workington Community Hospital</th>
<th>Copeland (WCH)</th>
<th>Total admissions (Model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>297</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td></td>
<td>3</td>
<td>18</td>
<td>3</td>
<td>232</td>
<td>10</td>
<td>227</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>227</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>207</td>
<td>8</td>
<td>227</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>401</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>315</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>315</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>43</td>
<td>42</td>
<td>22</td>
<td>42</td>
<td></td>
<td></td>
<td>42</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>756</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1258</strong></td>
<td><strong>116</strong></td>
<td><strong>60</strong></td>
<td><strong>62</strong></td>
<td><strong>481</strong></td>
<td><strong>19</strong></td>
<td><strong>1996</strong></td>
</tr>
</tbody>
</table>
The maps below shows where patients who had previously used Cockermouth, Maryport, Alston or Wigton hospitals would transfer if they attended the next nearest hospital. Please note: a point may represent more than one person attending from that location.
The following table shows bed days used if these people moved to the above hospitals and stayed for the same lengths of time. There would be likely to be capacity issues at a number of sites, particularly Workington and Brampton. It is likely that some of those patients whose nearest hospital would be Workington would need to be admitted into the increased capacity created in the Copeland Unit at West Cumberland Hospital which is underused based on a ‘nearest hospital’ approach:

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>Total bed days (Model 3)</th>
<th>Bed capacity (Model 3)</th>
<th>Max bed days</th>
<th>Est Occupancy based on current LoS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>7698</td>
<td>16</td>
<td>5840</td>
<td>131.8%</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>5307</td>
<td>16</td>
<td>5840</td>
<td>90.9%</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>10504</td>
<td>24</td>
<td>8760</td>
<td>119.9%</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>6100</td>
<td>32</td>
<td>11680</td>
<td>52.2%</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>12328</td>
<td>16</td>
<td>5840</td>
<td>211.1%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>41937</td>
<td>104</td>
<td>37960</td>
<td>110.5%</td>
</tr>
</tbody>
</table>
Option 4: Consolidation around 3 sites

This option maintains community hospitals at Copeland (increasing to 48 beds) and Penrith (24 beds), and involves a new 32 bed unit at either Cumberland Infirmary or the Carleton Unit. For this model, it has been assumed that the new unit will be sited at the Carleton Unit. This option has the greatest impact on travel, affecting 1,361 people and involving 5,105 additional miles with an estimated 145.9 hours of additional travel time. Travel time is reduced for many of those who previously used Brampton Hospital as a substantial proportion were Carlisle residents.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>No of admissions</th>
<th>Baseline average distance from home (Miles)</th>
<th>No. of patients affected</th>
<th>Average Miles travelled to nearest available site</th>
<th>Average Additional miles travelled</th>
<th>Est additional travel time per journey @35mph</th>
<th>Est. Total Additional miles travelled</th>
<th>Est total additional travel time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td>181</td>
<td>9.5</td>
<td>181</td>
<td>5.9</td>
<td>-3.6</td>
<td>Reduced</td>
<td>-655.0</td>
<td>-18.7</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td>266</td>
<td>4.4</td>
<td>266</td>
<td>7.2</td>
<td>2.7</td>
<td>00:04:35</td>
<td>712.1</td>
<td>20.3</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td>167</td>
<td>7.3</td>
<td>167</td>
<td>13.3</td>
<td>6.2</td>
<td>00:10:33</td>
<td>1,028.4</td>
<td>29.4</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td>218</td>
<td>4.0</td>
<td>218</td>
<td>14.7</td>
<td>10.9</td>
<td>00:18:44</td>
<td>2,382.8</td>
<td>68.1</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td>105</td>
<td>12.6</td>
<td>105</td>
<td>13.8</td>
<td>1.1</td>
<td>00:01:54</td>
<td>116.3</td>
<td>3.3</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td>149</td>
<td>7.5</td>
<td>149</td>
<td>10.4</td>
<td>3.0</td>
<td>00:05:06</td>
<td>442.6</td>
<td>12.6</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>275</td>
<td>2.2</td>
<td>275</td>
<td>6.1</td>
<td>3.9</td>
<td>00:06:43</td>
<td>1,078.2</td>
<td>30.8</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1996</strong></td>
<td><strong>5.8</strong></td>
<td><strong>1,361</strong></td>
<td><strong>8.3</strong></td>
<td><strong>3.9</strong></td>
<td><strong>00:47:36</strong></td>
<td><strong>5,105.4</strong></td>
<td><strong>145.9</strong></td>
</tr>
</tbody>
</table>
It can be seen that locating a community hospital in Carlisle would have a beneficial effect for the large population living in that area. However, there is a greater impact for those who used Maryport Hospital in 2015/16 and would have attended Workington Community Hospital under option 3.

The following table shows which hospital these people would attend if they were transferred to the next nearest hospital:

### Nearest Hospital Model 4

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>No Change</th>
<th>Copeland (WCH)</th>
<th>Penrith Hospital</th>
<th>The Carleton Clinic</th>
<th>Total admissions (Model 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAMPTON HOSPITAL</td>
<td></td>
<td>2</td>
<td>3</td>
<td></td>
<td>176</td>
</tr>
<tr>
<td>COCKERMOUTH HOSPITAL</td>
<td></td>
<td>251</td>
<td>4</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>KESWICK HOSPITAL</td>
<td></td>
<td>15</td>
<td>138</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>MARYPORT HOSPITAL</td>
<td></td>
<td>202</td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>ALSTON HOSPITAL</td>
<td></td>
<td>1</td>
<td>78</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>PENRITH HOSPITAL</td>
<td>339</td>
<td></td>
<td></td>
<td></td>
<td>563</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td>1048</td>
</tr>
<tr>
<td>WIGTON HOSPITAL</td>
<td></td>
<td>9</td>
<td>1</td>
<td></td>
<td>139</td>
</tr>
<tr>
<td>WORKINGTON COMMUNITY HOSPITAL</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>The Carleton Clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>385</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>635</td>
<td>752</td>
<td>224</td>
<td>385</td>
<td>1996</td>
</tr>
</tbody>
</table>
The maps below show where patients who had previously used hospitals other than Penrith and Copeland would transfer if they attended the next nearest hospital, including a new site in Carlisle. Please note: a point may represent more than one person attending from that location.
The following table shows bed days used if these people moved to the above hospitals and stayed for the same lengths of time. The main pressure point would then be at Penrith hospital. Some of those patients whose nearest hospital would be Penrith could be admitted into the new site in Carlisle. However, overall capacity remains the same and the capacity at Carlisle could only accommodate 1030 additional bed days whilst Penrith is 5089 days over capacity:

<table>
<thead>
<tr>
<th>Current Hospital</th>
<th>Total bed days (Model 4)</th>
<th>Bed capacity (Model 4)</th>
<th>Max bed days</th>
<th>Est Occupancy based on current LoS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PENRITH HOSPITAL</td>
<td>13849</td>
<td>24</td>
<td>8760</td>
<td>158.1%</td>
</tr>
<tr>
<td>COPELAND (WCH)</td>
<td>17438</td>
<td>48</td>
<td>17520</td>
<td>99.5%</td>
</tr>
<tr>
<td>The Carleton Clinic</td>
<td>10650</td>
<td>32</td>
<td>11680</td>
<td>91.2%</td>
</tr>
<tr>
<td>Grand Total</td>
<td><strong>41937</strong></td>
<td><strong>104</strong></td>
<td><strong>37960</strong></td>
<td><strong>110.5%</strong></td>
</tr>
</tbody>
</table>
Impact of Integrated Care Communities and stretch assumptions on patient travel to hospital

Date: 6th February 2017

Version: 0.2
Reader note

This report considers the impact of Integrated Care Communities and other initiatives on anticipated growth in activity and its effects on additional travel resulting from the preferred options outlined in the West, North and East Cumbria Healthcare for the Future consultation.

Recipients

Success Regime West, North & East Cumbria.

Sources

Data was supplied by North Cumbria University Hospitals NHS Trust and Cumbria Partnership NHS Foundation Trust. It is based on A&E attendances for the period 1 April 2015 to 31 March 2016 and inpatient admissions where the person was an inpatient at any time between 1 April 2015 to 31 March 2016.


Travel distances are calculated using data made available by the Ordnance Survey (OS OpenData) [https://www.ordnancesurvey.co.uk/business-and-government/products/os-open-roads.html].

Geography

This report covers patients with a recorded address within the geographical boundaries of Cumbria CCG.

Production

This report has been produced by North of England Commissioning Support based on a specification from West, North and East Cumbria Success Regime. Please ensure this information is not taken out of context.

Completion Date: 6th February 2017.
INTRODUCTION

West, North and East Cumbria Success Regime has developed and consulted on a range of options to meet the challenges that health care services face today and in the future. Work to predict the impact of these options on patient travel to hospital has been undertaken. It has also been recognised that without intervention demand for emergency, acute and even community hospital inpatient services will increase over time as people live longer, but not always healthier, lives.

This report summarises the travel impact of the preferred options and analyses the impact on travel of these options over the next five years. This is then compared with options to provide more outpatient appointments at locations across Cumbria and proposals to develop Integrated Care Communities to deliver joined up care involving the NHS, social care providers and the voluntary sector.

ASSUMPTIONS

The assumptions used are consistent with previous West, North and East Cumbria Success Regime travel impact analysis reports. Assumptions include:

- It has been assumed that patients have travelled to hospital from their home. The transfer of patients between hospitals is excluded.
- Pseudonymised postcodes have been mapped to the nearest travel node
- Analysis was restricted to patients with a recorded address within the geographical boundaries of Cumbria.
- It is assumed that all roads are available for travel and that the shortest routes are taken.
- Specific modelling assumptions to identify patients affected were provided by Deloitte. These have been amended by the Success Regime where local or clinical knowledge suggested that this was appropriate. It is acknowledged that more detailed work to refine high-level assumptions is underway and that the assumptions used here may change.

This report also models growth in demand for healthcare services and the impact of out of hospital initiatives. The table below summarises the assumptions that underpin this work.
Table: Core assumptions for out-of-hospital reductions (5 year impacts)

<table>
<thead>
<tr>
<th>Service line</th>
<th>A&amp;E</th>
<th>EL-IP</th>
<th>EL-DC</th>
<th>NEL-IP</th>
<th>NEL - DC</th>
<th>OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core impact</td>
<td>-13.3%</td>
<td>-13.3%</td>
<td>-5.0%</td>
<td>-18.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact after growth</td>
<td>10.4%</td>
<td>9.1%</td>
<td>9.1%</td>
<td>5.4%</td>
<td>-17.7%</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

Table: Stretch assumptions for out-of-hospital reductions (5 year impacts)

<table>
<thead>
<tr>
<th>Service line</th>
<th>A&amp;E</th>
<th>EL-IP</th>
<th>EL-DC</th>
<th>NEL-IP</th>
<th>NEL - DC</th>
<th>OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core impact</td>
<td>-6.4%</td>
<td>-14.8%</td>
<td>-14.8%</td>
<td>-19.1%</td>
<td>-16.2%</td>
<td></td>
</tr>
<tr>
<td>Impact after growth</td>
<td>4.0%</td>
<td>-5.4%</td>
<td>-4.4%</td>
<td>-8.7%</td>
<td>10.4%</td>
<td>-5.0%</td>
</tr>
</tbody>
</table>

Source: Initial discussions with Success Regime clinical workstream.

The 5 year impacts are presented in the tables below alongside the activity reduction net of growth to provide an indication of the total activity change.

Activity growth is applied cumulatively at a rate of 2.0% per annum as agreed with the DO.

The out of hospital impacts have been identified based on triangulating a range of evidence, including current workstream propositions, opportunities identified in the KCBFF document, opportunities identified through analysing the right care indicators, and opportunities identified through analysing the Better Care Better Value indicators.

(Source: WNE Cumbria Pre Consultation Business Case, Additional Finance Material, June 2016, p15)
PREFERRED OPTIONS

The Public Consultation Document ‘The Future of Healthcare in West, North & East Cumbria’ identified preferred options with the following implications for services at West Cumberland Hospital:

- **Maternity Option 2** (provision of a standalone midwife-led maternity unit with antenatal and postnatal care delivered by both consultants and midwives and with consultants on site between 8am and 8pm)
- **Children’s Option 1** (short stay paediatric assessment unit plus some low acuity beds at Whitehaven for children with less acute, low risk illnesses where medical intervention is not anticipated overnight)
- **Emergency and Acute Option 1** (retains a 24/7 A&E at West Cumberland Hospital along with acute medical inpatient services and rehabilitation. Some of the most seriously ill patients would be treated at Carlisle if it was felt they would benefit from the extra support available there).
- **Hyper-Acute Stroke Option 2** (all acute stroke cases managed in a single hyper-acute stroke unit based at Cumberland Infirmary, prior to moves into a stroke unit for further treatment and rehabilitation - both sites and/or early supported discharge).

**In addition, the preferred option for Community Hospital Inpatients was Option 1** (no inpatient services at Alston, Wigton and Maryport community hospitals)

Whilst the intention is to reduce the need for outpatient appointments and deliver those required by different means and/or closer to home wherever possible, detailed proposals for North Cumbria University Hospitals NHS Trust outpatient appointments have not been developed to date.

PREFERRED OPTIONS: POTENTIAL IMPACT OF DELIVERING MORE CARE OUT OF HOSPITAL SETTINGS (FIVE YEARS)

Activity (demand for services) is estimated to grow cumulatively at a rate of 2% per annum. Core assumptions have been developed to estimate potential reductions in hospital utilisation through the provision of Integrated Care Communities.

West, North and East Cumbria Success Regime also developed some stretch assumptions based on workstream propositions and opportunities identified using Right Care and Better Care Better Value indicators. The following tables model the numbers of patients who would be affected under the preferred options and the total additional miles that they would travel to hospital. It also shows how the number of people affected would increase if no out of hospital initiatives are implemented and the impact of core and stretch assumptions on this growth.
Maternity Option 2

It is considered that the development of Integrated Care Communities will not have a significant effect on arrangements for births.

Children’s Option 1

If no out of hospital reductions are implemented, the number of children affected by these proposals would rise from 197 to 218 in five years. Using the core assumptions shown earlier (5% reduction for non-elective inpatient and 1.3% for elective inpatients), the number affected still increases over 5 years but 11 fewer children would face additional travel compared to expected growth if no changes are implemented. If the stretch assumptions opportunities can be realised, numbers affected after 5 year growth would be lower than current levels.

<table>
<thead>
<tr>
<th>Children’s Option 1</th>
<th>Current no. of people affected (move to CIC)</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No’s affected</td>
<td>Total additional miles</td>
<td>No’s affected</td>
<td>Total additional miles</td>
<td>No’s affected</td>
<td>Total additional miles</td>
</tr>
<tr>
<td>Paediatrics - NEL inpatient</td>
<td>188</td>
<td>208</td>
<td>5595</td>
<td>179</td>
<td>4815</td>
<td>198</td>
</tr>
<tr>
<td>Paediatrics - elective inpatient</td>
<td>3</td>
<td>3</td>
<td>78.3</td>
<td>3</td>
<td>78.3</td>
<td>3</td>
</tr>
<tr>
<td>Neonatal services NEL inpatient</td>
<td>6</td>
<td>7</td>
<td>196.0</td>
<td>6</td>
<td>168.0</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>218</td>
<td>5869.3</td>
<td>188</td>
<td>5061.3</td>
<td>207</td>
</tr>
</tbody>
</table>
**Emergency and Acute Option 1**

580 people are affected by this option. If no out of hospital reductions are implemented, the numbers affected by these proposals would rise to 640 in five years. Using the core assumptions shown earlier (5% reduction for non-elective inpatient and 1.3% for elective inpatients), the number affected still increases over 5 years but 14 fewer people would face additional travel compared to expected growth if no changes are implemented. If the stretch assumptions opportunities can be realised, numbers affected after 5 year growth would be 546 (34 lower than current levels).

<table>
<thead>
<tr>
<th>Emergency and Acute Option 1</th>
<th>Current no. of people affected (move to CIC)</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No’s affected</td>
<td>Total additional miles</td>
<td>No’s affected</td>
<td>Total additional miles</td>
<td>No’s affected</td>
<td>Total additional miles</td>
</tr>
<tr>
<td>Non elective inpatient Complex</td>
<td>156</td>
<td>172</td>
<td>4282.8</td>
<td>148</td>
<td>3884.4</td>
<td>164</td>
</tr>
<tr>
<td>Elective Complex inpatient</td>
<td>216</td>
<td>238</td>
<td>2602.0</td>
<td>213</td>
<td>2361.4</td>
<td>236</td>
</tr>
<tr>
<td>Gynaecology - elective inpatient</td>
<td>182</td>
<td>201</td>
<td>4241.5</td>
<td>180</td>
<td>3840.6</td>
<td>199</td>
</tr>
<tr>
<td>Gynaecology - NEL inpatient</td>
<td>26</td>
<td>29</td>
<td>783</td>
<td>25</td>
<td>702</td>
<td>27</td>
</tr>
</tbody>
</table>

**Hyper-Acute Stroke Option 2**

362 A&E attendances for suspected stroke transported by emergency ambulance would be diverted from West Cumberland Hospital to Cumberland Infirmary under this option. 260 inpatients from West Cumbria would move their care from West Cumberland Hospital to Carlisle. It is likely that the majority of these patients will have attended A&E so their additional journey will have been included already. However, to take a worst case scenario, all of these patients have been included.
This option could affect up to 622 patients who would travel an additional 16231 miles to Cumberland Infirmary. This is expected to increase within five years to 687 patients affected, travelling an additional 17927 miles. The core assumptions are expected to reduce this growth very slightly to 682 patients affected (ICC’s are not expected to impact on A&E attendances for suspected stroke). The stretch assumptions are predicted to reduce inpatient admissions by 5% (5.4% increase following 5 year’s growth).

<table>
<thead>
<tr>
<th>Hyper-Acute Stroke Option 2</th>
<th>Current no. of people affected (move to CIC)</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;E stroke attendances via ambulance</td>
<td>Numbers affected</td>
<td>Total additional miles</td>
<td>Numbers affected</td>
<td>Total additional miles</td>
<td>Numbers affected</td>
<td>Total additional miles</td>
</tr>
<tr>
<td>362</td>
<td>400</td>
<td>10404.1</td>
<td>362</td>
<td>9415.7</td>
<td>400</td>
<td>10404.1</td>
</tr>
<tr>
<td>Inpatient</td>
<td>260</td>
<td>287</td>
<td>7522.7</td>
<td>255</td>
<td>6815.0</td>
<td>282</td>
</tr>
</tbody>
</table>

Community Hospital Inpatients Option 1

Inpatient admissions would cease at Alston, Wigton and Maryport community hospitals. This is estimated to affect 472 patients who would travel an additional 1659 miles to the next nearest community hospital. This is expected to increase within five years to 521 patients affected, travelling an additional 1831 miles. The core assumptions are not expected to reduce admissions to community hospitals, although they could reduce length of stay for patients. The stretch assumptions are predicted to reduce admissions to community hospitals by 19.6% (9.2% following 5 year’s growth). This equates to 429 admissions in five years’ time, 43 fewer than currently and 92 fewer than that expected after five years growth if no action is taken.
### Outpatient options

Outpatient services provided by Cumbria Partnership NHS Foundation Trust are not considered in this report as they are already provided through a wider range of sites.

Numbers of outpatient attendances are predicted to grow by 2% per year. There are no core assumptions that are expected to reduce numbers of outpatient attendances. Within five years, it is anticipated that demand for outpatient services will increase from 324,977 attendances per year by nearly 34,000 to 358,775. It is estimated that this would increase travel to hospital by over 390,000 miles per year. However, if Integrated Care Communities and stretch assumptions can be implemented, this growth could be reversed so that, after five years, the number of attendances is predicted to fall by 5.8% compared to the current position. This would reduce the number of attendances to 306,128 per year, incurring 217,825 miles fewer than currently. Transformation plans for achieving this include better long term conditions management in primary care supported by secondary care as part of multidisciplinary team working and care planning thus preventing the need for referral, as well as proposals to provide care which result currently in outpatient visits in different ways – for example via Advice and Guidance and email options.

### NCUHT Outpatient Attendances

<table>
<thead>
<tr>
<th>NCUHT Outpatient Attendances</th>
<th>Current No’s</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Attendances 2015/16</td>
<td>324,977</td>
<td>358,775</td>
<td>414,6126</td>
<td>358,775</td>
<td>272,331</td>
<td>306,128</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community Hospital Option 1</th>
<th>Current no. of people affected (move to CIC)</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Numbers affected</td>
<td>Total additional miles</td>
<td>Numbers affected</td>
<td>Total additional miles</td>
<td>No’s affected</td>
<td>Total additional miles</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------</td>
<td>------------------------</td>
<td>-----------------</td>
<td>------------------------</td>
<td>---------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>472</td>
<td>521</td>
<td>1831</td>
<td>-</td>
<td>-</td>
<td>521</td>
</tr>
</tbody>
</table>
Other outpatient transformation work includes provision of more appointments at West Cumberland Hospital and Cumberland Infirmary based on proximity for the patient, with opportunities to offer more outpatient clinics in community hospitals (and potentially other community settings). Further work is required before the forecast impact on NCUHT outpatient appointments can be determined so at this point a range of scenarios are explored which are purely for illustrative purposes.

All of these approaches would have a beneficial impact on patient travel compared to current arrangements. If, for example, appointments can be reconfigured between Cumberland Infirmary and West Cumberland Hospital to enable patients to attend the nearest main hospital, this could lessen travel for up to 43347 attendances per year (mostly benefitting people from West Cumbria). If just 25% of these attendances could be dealt with at the nearer hospital, this would result in 10,837 reduced journeys to hospital per year. 231,197 fewer miles would be travelled.

If appointments can be decentralised further to community hospitals and 20% of Cumberland Infirmary and West Cumberland Hospital patients who live closer to another hospital could be treated at that site, this would reduce travel for up to 29,789 attendances per year. This would avoid 504,677 miles travel.

The outpatient modelling in the table does not include the impact of any ICC reductions in outpatient activity. The number of miles saved by decentralising outpatient appointments would be reduced if delivery of care outside of hospital initiatives are successful in preventing outpatient activity. However, clearly such initiatives would in themselves have an even more beneficial impact on patient travel.
SUMMARY & CONCLUSION

If the preferred options are adopted, this could lead to 2985 people being affected, travelling an additional 63148 miles. If no mitigating actions are implemented, this is expected to increase within five years to 3296 people affected, travelling an additional 69740 miles. Core assumptions would reduce this number by 30 people after five years. Stretch assumptions would reduce this number to 3035 people affected after five years, travelling an additional 65626 miles.

<table>
<thead>
<tr>
<th>Preferred Option</th>
<th>No. of people affected</th>
<th>&quot;Do Nothing&quot; 5 year growth</th>
<th>Core Impact</th>
<th>Core Impact after 5 year growth</th>
<th>Stretch Impact</th>
<th>Stretch Impact after 5 year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity Option 2</td>
<td>1114</td>
<td>1230</td>
<td>32204</td>
<td>29167</td>
<td>1230</td>
<td>32204</td>
</tr>
<tr>
<td>Children’s Option 1</td>
<td>197</td>
<td>218</td>
<td>5869</td>
<td>5061</td>
<td>207</td>
<td>5572</td>
</tr>
<tr>
<td>Community Hospital Option 1</td>
<td>472</td>
<td>521</td>
<td>1831</td>
<td>1659</td>
<td>379</td>
<td>1332</td>
</tr>
<tr>
<td>Emergency and Acute Option 1</td>
<td>580</td>
<td>640</td>
<td>11909</td>
<td>10788</td>
<td>486</td>
<td>8987</td>
</tr>
<tr>
<td>Hyper-Acute Stroke Option 2</td>
<td>622</td>
<td>687</td>
<td>17927</td>
<td>16231</td>
<td>586</td>
<td>15292</td>
</tr>
<tr>
<td>Total</td>
<td>2985</td>
<td>3296</td>
<td>69740</td>
<td>62906</td>
<td>2725</td>
<td>59084</td>
</tr>
</tbody>
</table>

It is recognised that travel for outpatient appointments will often be less time critical than in emergency situations. However, the table below demonstrates that all options for decentralising outpatient appointments significantly outweigh the increased travel implications arising from Emergency, Acute and community hospital inpatient proposals. The following table shows the number of patients affected and additional miles incurred if the preferred options are implemented. It then illustrates potential overall net savings in travel if various options for providing more outpatient appointments closer to home are implemented.
### Overall Net Travel implications involving various outpatient scenarios:

<table>
<thead>
<tr>
<th>Preferred Option</th>
<th>No. of journeys to hospital affected</th>
<th>Total additional miles travelled</th>
<th>Est total additional travel (\text{time} @35\text{mph in hours})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity Option 2</td>
<td>1114</td>
<td>29167</td>
<td>833.3</td>
</tr>
<tr>
<td>Children’s Option 1</td>
<td>197</td>
<td>5303</td>
<td>151.5</td>
</tr>
<tr>
<td>Emergency and Acute Option 1</td>
<td>580</td>
<td>10788</td>
<td>308</td>
</tr>
<tr>
<td>Hyper-Acute Stroke Option 2</td>
<td>622</td>
<td>16231</td>
<td>463.7</td>
</tr>
<tr>
<td>Community Hospital Option 1</td>
<td>472</td>
<td>1659</td>
<td>47.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2985</strong></td>
<td><strong>63148</strong></td>
<td><strong>1804</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Less Potential Outpatient Travel Savings</th>
<th>No. of journeys where other hospital is closer</th>
<th>Total miles saved</th>
<th>Est travel time saved (@35\text{mph in hours})</th>
</tr>
</thead>
<tbody>
<tr>
<td>25% to nearer main hospital (CIC &amp; WCH)</td>
<td>10837</td>
<td>231197</td>
<td>6606</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-7852</td>
<td>-168049</td>
<td>-4801</td>
</tr>
<tr>
<td>50% to nearer main hospital (CIC &amp; WCH)</td>
<td>21674</td>
<td>462394</td>
<td>13211</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-18689</td>
<td>-399245</td>
<td>-11407</td>
</tr>
<tr>
<td>75% to nearer main hospital (CIC &amp; WCH)</td>
<td>32510</td>
<td>693590</td>
<td>19817</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-29525</td>
<td>-630442</td>
<td>-18013</td>
</tr>
<tr>
<td>10% to Nearest CH</td>
<td>14895</td>
<td>252348.6</td>
<td>7210.0</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-11910</td>
<td>-189200</td>
<td>-5406</td>
</tr>
<tr>
<td>20% to Nearest CH</td>
<td>29789</td>
<td>504676.5</td>
<td>14419.3</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-26804</td>
<td>-441528</td>
<td>-12615</td>
</tr>
<tr>
<td>50% to Nearest CH</td>
<td>74472</td>
<td>1261786</td>
<td>36051</td>
</tr>
<tr>
<td>Potential Net reduction</td>
<td>-71487</td>
<td>-1198637</td>
<td>-34247</td>
</tr>
</tbody>
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