Transforming health and social care in Kent and Medway

Kent and Medway Sustainability and Transformation Partnership

Stroke Joint Health Overview and Scrutiny Committee

Discussion Document

05 September 2018

Transforming health and social care in Kent and Medway is a partnership of all the NHS organisations in Kent and Medway, Kent County Council and Medway Council. We are working together to develop and deliver the Sustainability and Transformation Plan for our area.

NHS

Agenda

Item		Time
Welcome, introductions and objectives	PD	13:00
Update on travel times	AC	13:10
Evaluation criteria	PD	13:30
Update on rehabilitation pathway	PD	14:15
Discussion and next steps	PD	14:40
AOB	PD	14:50

Objectives (Patricia Davies)

The Joint Health Overview and Scrutiny Committee is asked to:

a) **NOTE** the update on re-run travel times
b) **NOTE** and **DISCUSS** the evaluation criteria
c) **NOTE** the update on the rehabilitation pathway
d) **NOTE** the next steps
e) **AGREE** further meeting dates

Update on Travel Times

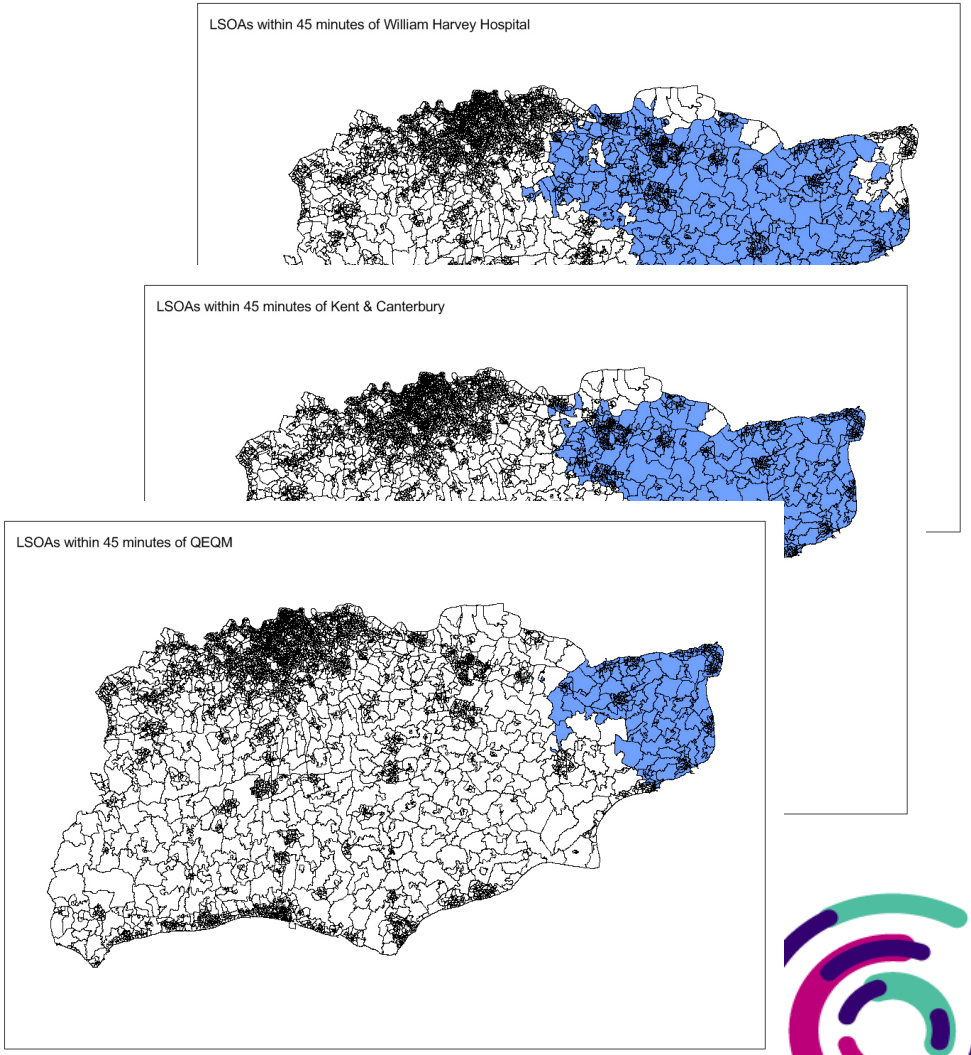
At the previous meeting, the Stroke JHOSC requested further assurance about the travel times particularly in the Thanet area

Today we will cover:

- Further detail about the data source used
- The approach to travel time modelling
- The outcome of validation exercises that have been undertaken
- The revised travel time outputs for the DMBC using the refreshed data
- Deep-dive into travel times for Thanet

Basemap have been used as the source data underpinning the travel time analysis

- Basemap (www.basemap.co.uk) is a nationally recognised and trusted digital mapping and transport solution data solution provider that has supported numerous NHS organisations over the years, including being used as the basis for acute reconfigurations
- They provide TRACC software: a desktop application that uses public transport and highway data to create journey times from origins to destinations - in this case, LSOAs to Kent and Medway hospital sites
- The car travel time data is based on GPS captures from sat navs
- This data is used to calculate the mean time taken to travel from one point to another over a year
- **For the DMBC refreshed 2017/18 Basemap data has been used**



The raw data from Basemap consists of travel time from 3,186 LSOAs to 15 hospital sites and four different travel times for each journey

- The travel times from 3,186 LSOAs (with a total population of 5.6 million people) to the following 15 hospital sites
- 8 periphery hospitals with HASUs closest to the K&M boarder were included in the data set

Kent and Medway

- WHH
- K&M
- QEQM
- DVH
- MGH
- TWH
- MMH

Periphery sites

- Brighton (Royal Sussex County Hospital)
- Princess Royal University Hospital
- Basildon Hospital
- King's College Hospital
- East Surrey Hospital
- Eastbourne District General Hospital
- Princess Royal University Hospital
- St George's Hospital

1) Peak car

Using the average speed Monday – Friday
07:00 – 09:00
16:00 – 19:00

2) Off-peak car

Using the average speed Monday – Friday
10:00 – 16:00

3) Peak public transport

4) Off-peak public transport

- For both the peak and off-peak times as given for car the application uses timetable information showing both arrival and departure times at stops from public transport service during peak times
- The journey assumes arrival at the first stop 1 minute before the initial departure, with any subsequent interchange waiting times included as part of the final journey time
- The journey time produced then includes the walk from the origin to the road, from the road to the public transport stops, any interchange of public transport using the road and then from the final stop to the destination via the road

Note

- Using sat nav data means that journeys which are actually faster than the speed limit are included, and this can impact on the relative peak and off peak times
- According to Basemap, it is relatively common to find that traffic flows faster in peak than off peak

SOURCE: Basemap 2017

Four key steps were taken in analysing travel times under different service configuration options

1. Population per LSOA and travel time from LSOA to each of the hospital sites captured in base data (Basemap) (all LSOAs within the agreed "K&M catchment area")

2. Scenarios are modelled by "turning off" sites and diverting patients to the site with the next shortest journey

3. The proportion of the population who can access a site within a certain time (e.g. 60 minutes) can then be calculated

4. For evaluation criterion we are looking at the % of the total population, under each scenario, able to access a HASU within 45 and 30 minutes*

The analysis assumes that for each option patients will travel to the site with the shortest travel time

For some LSOAs under certain scenarios, this is a non-K&M site

* The total population refers to all LSOAs for whom the current closest acute stroke service is within the K&M STP

A number of tests have been undertaken looking at the validity of the Basemap data

Spot checks of the Basemap travel times against Google travel times

- LSOAs were mapped to electoral wards using ONS data
- 23 electoral wards were reviewed, looking at travel times at midnight
- These google times were reviewed against the Basemap travel times

The spot checks confirm that the underlying basemap data is accurate and reflects travel times seen

Review of variation in travel time to actual patient flows

- A test was undertaken that compared the actual site patients attended compared to the predicted sites from the catchment analysis
- The data takes into account three years of stroke activity data (2015/16-2017/18) and uses the updated basemap travel times

In total 92% of patients attend their predicted hospital

As part of the evaluation of the shortlist of options, the % access within 30 and 45 minutes is being assessed

Evaluation question

- Do any options keep to a minimum the increase in the total time it takes people to get to hospital by ambulance and car?

Quantification measures

- The % population that can access sites within 30 and 45 mins (blue light proxy)
- The % population that can access sites within 30 and 45 mins (private care peak)

Draft evaluation of the five shortlisted option against travel times

Blue light, proxy (car off-peak)

The % population that can access sites within 30 mins and 45 mins travel time blue light proxy

		Option A	Option B	Option C	Option D	Option E
% population that can access HASU/ASU	45 mins	91.8	92.4	92.4	92.8	98.9
	30 mins	66.4	69.6	62.5	69.0	69.7

SOURCE: Basemap travel times (2018) (car off-peak) as blue light proxy, as confirmed by SECAmb; ONS (2016); CF (2018)
NOTE: Assess % population within “K&M catchment” area as agreed at meeting between SEL commissioners; PRUH; LAS; DVH (07/08)

It is predicted that there will be 267 strokes a year in Thanet CCG

- Thanet CCG has a population of **c.140,000**
- Just under **23,000** of these are aged over 70
- There have been an average of **255** confirmed strokes a year over the last three years
- Based on the age and deprivation of the area it is predicted that there will be **267** stroke next year

SSNAP data shows that for Thanet CCG:

- **Only 52% of patients go direct to a stroke unit within 4 hours**
- 81% of patients spend 90% or more of their stay on a stroke unit
- **47 patients die within 30 days of hospital admission**, is it expected that this number **should be 38**

SOURCE: ONS mid-population figures 2016; Provider data returns 2015-2016; IMD deprivation scores; sSNAP April2016-March 2017

Under all options 83% of the Thanet population can access a HASU within 60 minutes and the maximum travel time is 63 minutes

- Under all options for Thanet CCG:
  - 83% access within 60 minutes
  - Average travel time of 55 minutes
  - Maximum travel time of 63 minutes

- Evidence shows that patients benefit from thrombolysis up to 3 hours after the start of a stroke

- Only 15-20% of stroke patients are eligible for thrombolysis, which is not exclusively dependent on travel times however we have set a target of 120 minutes call to needle time for patients that require thrombolysis. This is the most time critical part of the pathway

- Following discussions with the SE Coast Clinical Senate we agreed the ambition of 120 minutes – giving good access and best outcomes

- The stroke review has the aim of improving the quality of care delivered to the whole K&M population and the evidence shows that improved outcomes are due to being treated in a specialist unit rather than proximity to that unit

- It is the aim of the Stroke Review that, as far as possible, non-acute services will be delivered at the hospital site closest to home, this includes rehabilitation and outpatient clinics

Evaluation Criteria
for identification of the preferred option

Options evaluation

Overarching principles agreed by the Joint Committee:

1. The aim of the options evaluation is to differentiate between the options in order to determine a preferred option

2. The evaluation criteria used within the PCBC will be applied to maintain consistency

3. Additional evaluation criteria will only be added if it should emerge from the consultation or other feedback

Options evaluation

New recommendations for principles of evaluation:

1. The evaluation will reflect the current status of services delivered and not future aspirations

2. The evaluation keys are set so as to be differentiating in order to allow the determination of a preferred option from the shortlist

3. If two values are within 5% of each other than they would be evaluated the same

Development of the Criteria

The following groups have been involved in the development of the criteria;

1) Evaluation criteria working group
2) Stroke Programme Board
3) Stroke Clinical Reference Group
4) JCCCG 2nd August 2018
5) JCCCG 28th August 2018 (criteria agreed)

These proposed criteria reflect the recommendations from the groups above.

Options evaluation process

- The evaluation criteria have been agreed (28th August) and will be applied (13th September) by the Stroke Joint Committee of CCGs
- Individual sites to be evaluated against each of the sub-criteria and assigned an evaluation:

- Each option to be assigned an evaluation against each of the sub-criteria using the individual site evaluations within that option

The evaluation criteria used in the PCBC:

	Criteria	Sub-criteria
1	Quality of care for all	• Clinical effectiveness and responsiveness
2	Access to care for all	• Time to access services
3	Workforce	• Scale of impact • Sustainability
4	Ability to deliver	• Expected time to deliver • Trust ability to deliver
5	Affordability and value for money	• Net present value

Proposed option evaluation criteria to identify a preferred option

Criteria	Sub criteria	New sub criteria
Quality of care for all	SEC co-adjacencies	
	Co-adjacencies for mechanical thrombectomy	
	Required for MEC	
	Activity levels	✓
Access to care for all	Blue light, off peak	
	Private car, peak	
Workforce	Gap in workforce requirements	
	Vacancies	
	Turnover	
Ability to deliver	Expected time to deliver	
	Trust ability to deliver	
Affordability and value for money	Net Present Value (NPV at 10 years, £m)	
	Capital investment required	✓

Quality criteria

1

The clinical co-dependencies required for a HASU as determined by the South East Coast Clinical Senate

Service should be co-located in the same hospital

- Emergency medicine
- Acute and General Medicine
- Elderly Medicine
- Respiratory Medicine
- Urgent GI Endoscopy
- Critical Care (adults)
- Gen Anaesthetics
- Acute Cardiology
- X-ray and diagnostic ultrasound
- CT
- MRI
- OT
- Physio
- Acute (Liaison) Mental Health

Service should come to patient (patient transfer not appropriate), but could be provided by visiting/inreach from another

- Nephrology
- Palliative Care
- Neurology
- Speech and Language
- Dietetics

Ideally on same site but could alternatively be networked via robust emergency and elective referral and transfer protocols

- Medical Gastroenterology
- Ophthalmology
- General Surgery
- Trauma
- Orthopaedics
- Hub Vascular Surgery
- Neurosurgery
- Critical Care (paediatric)
- Acute Stroke Unit *
- Inpatient dialysis
- Acute Paediatrics
- Nuclear Medicine
- IR
- Clinical and lab microbiology
- Urgent diagnostic haematology
- Acute inpatient rehabilitation

* Acute Stroke Unit listed as a co-adjacency in the South East Coast Clinical Senate report "**The Clinical Co---Dependencies of Acute Hospital Services"** December 2014

Quality criteria

2

SEC co-adjacencies

To evaluate co-adjacent services it is proposed:

- That co-location with the **trauma unit and/or vascular hub (centres for non-elective inpatient vascular surgery)** are prioritised as the most beneficial as this supports access to interventional radiology and angiographic CT scanning 24 hours a day, 7 days a week

- That following assessment of the provision of trauma and vascular, the assessment of other co-adjacent service are assessed

Proposed evaluation key:

	Evaluation
Co-location of both vascular surgery centre and onsite trauma unit	++
Co-location of either vascular surgery centre or onsite trauma unit	+
Networked vascular surgery centre and trauma. Majority of other co-adjacencies on site	\
Networked vascular surgery centre and trauma. Many other co-adjacent services also networked	-
All co-adjacent services networked	--

Quality criteria

2

Co-adjacencies for Mechanical Thrombectomy

To evaluate mechanical thombectomy it is proposed that:

- The key co-adjacency is interventional neuro radiology, although similar skills and equipment are required to support Primary Percutaneous Coronary Intervention (pPCI)
- A further 5 secondary services or capabilities are identified as optimal clinical co-adjacencies for mechanical thrombectomy including (CT & CT angiogram; MRI angiogram; Interventional radiology suite with capability to use general anaesthetics/ sedation; Networked with a neurology centre; and Designated trauma unit). The sites are assessed on their provision of these

Proposed evaluation key:

	Evaluation
On-site availability of pPCI and interventional neuro radiology	++
On-site availability of pPCI or interventional neuro radiology **or** all 5 of the secondary beneficial services	+
No on-site availability of pPCI or interventional neuro radiology and 4 of the secondary beneficial services	\
No on-site availability of pPCI or interventional neuro radiology and 3 of the secondary beneficial services	-
No on-site availability of pPCI or interventional neuro radiology and 2 or less of the secondary beneficial services	--

Quality criteria

2

Provision of services required to constitute a Major Emergency Centre

To evaluate services required to constitute a Major Emergency Centre, defined by the Keogh model it is proposed:

- The number of services that are defined under the Keogh model for a site to be a Major Emergency Centre (MEC) that are available on site or networked are assessed
- These services are: Acute Cardiac pPCI, A&E, Emergency Surgery and full obstetrics

The CRG recommend that, although a required service for a MEC, a level 3 NICU has marginal clinical relevance to a HASU so its availability is not considered in the evaluation

Proposed evaluation key:

	Evaluation
All services available on site	++
Up to one networked service, all others available on site	+
Up to two networked services, all others available on site	\
Up to three networked services, all others available on site	-
All services networked	--

Quality criteria

Volumes of clinical activity

Previously:

- The national recommendation is that HASUs should see 500 - 1500 patients a year to ensure there is sufficient patient volume for a 24/7 service to be sustained.
- A 10% tolerance was applied to minimum and maximum activity levels

Not used as part of the evaluation criteria

However:

- The tolerance was not supported by the Clinical Senate
- Data from the Sentinel Stroke National Audit Programme suggests that Hyper acute stroke services are more likely to be clinically effective if they are admitting between 600 and 1500 cases per year
- 6wte consultants are required for activity between 500 – 1300 patients and 8wte consultants are required for activity between 1300 – 1500 patients

Proposed evaluation key:

Activity	Evaluation
900 - 1500	++
601 - 899	+
500 - 600	\
400 - 499	-
<400 >1500	--

Access to care for all

Blue light, proxy

To evaluate the options against Ambulance blue light, (off peak proxy used), travel time the following will be assessed:

The % of K&M population (defined as the population whose current closest stroke services is within the K&M) who have a travel time from home to HASU of less than **30 mins** and less than **45 mins** at off-peak times (this was agreed as an appropriate proxy for blue light ambulance travel time by SECAmb service)

Rationale:

Access to services is very important and was consistently mentioned during consultation Assessing the % of patients who will have an ambulance travel time of less than 45 mins and 30 mins is important within the context of 120 mins call to needle time for delivering thrombolysis. (It is assumed most patients will access HASU by ambulance)

Proposed evaluation key (same as used in PCBC):

% total pop access within 45 mins	Evaluation
=>95% access within 45 mins	++
85-94.9% access within 45 mins	+
<85% access within 45 mins	- -

% total pop access within 30 mins	Evaluation
=>75% access within 30 mins	++
65-74.9% access within 30 mins	+
<65% access within 30 mins	- -

Access to care for all

Private car peak

To evaluate the options against Ambulance blue light, (off peak proxy used), travel time the following will be assessed:

The % of K&M population (defined as the population whose current closest stroke services is within the K&M) who have a travel time from home to HASU of less than **30 mins** and less than **45 mins** at peak times.

Rationale:

Access to services is very important and was consistently mentioned during consultation. Assessing the % of patients who will have a travel time of less than 45 mins and 30 mins is important within the context of 120 mins call to needle time for delivering thrombolysis but also for ease of visitor access

Proposed evaluation key (same as used in PCBC):

% total pop access within 45 mins	Evaluation
=>95% access within 45 mins	++
85-94.9% access within 45 mins	+
<85% access within 45 mins	- -

% total pop access within 30 mins	Evaluation
=>75% access within 30 mins	++
65-74.9% access within 30 mins	+
<65% access within 30 mins	- -

Workforce

Gap in workforce requirements

Previously:

- Gap in workforce for consultants, registered nurses and AHPs based on best practice requirements compared to in post staff
- There was a neutral evaluation for the smallest consultant gap, with everything else negative to represent the recruitment challenge this poses. All other workforce gaps are proposed as neutral as non-differentiating from each other

It is proposed this evaluation remains unchanged

Workforce

Vacancies

Previously:

- The average vacancy rates over the past three years was calculated by site for medical and nursing staff and evaluated accordingly

It is proposed this evaluation remains unchanged

Proposed evaluation key:

Vacancies	Evaluation
Vacancy rate significantly below as is	++
Vacancy rate below as is	+
Vacancy rate consistent with as is	\
Vacancy rate above as is	-
Vacancy rate significantly above as is	--

Workforce

Turnover

Previously:

- The average turnover rates over the past three years was calculated by site for medical and nursing staff and evaluated accordingly

It is proposed this evaluation remains unchanged

Proposed evaluation key:

Turnover	Evaluation
Turnover rate significantly below as is	++
Turnover rate below as is	+
Turnover rate consistent with as is	\
Turnover rate above as is	-
Turnover rate significantly above as is	--

Ability to deliver

Assessment of go live date and confidence in delivery

Previously:

- Expected time and ease to deliver (Kent and Medway only) was determined by each Trust
- Based on the modelled bed requirements by site for each option, the Trusts were asked to complete a self assessment on whether they were willing to deliver an option

To evaluate ability to deliver it is proposed:

- **Each Trust (including PRUH) presents their anticipated to go live date and implementation plan to a Deliverability panel**
- **The Deliverability panel will evaluate each Trust's ability to deliver against key areas:**
  Go live date
  Delivery readiness
- **The panel will take place on the 4th September 2018.**

Process for agreeing evaluation for ability to deliver

1 Trust presents plan for each option per site

- Each site submits an implementation plan with go live date 29/08
- Each site delivers a 20 minute presentation covering all relevant options

2 Panel asks questions for each site

Panel has 10 minutes to QA each site presentation

Suggested questions will be provided to the panel based on the submitted implementation plans

Panel members will have a guidance sheet advising how evaluation is to be applied for each criteria based on a defined set lines of enquiry.

The panel are asked to make notes for each site against these criteria.

3 Panel agrees evaluations per site per option

1) Site 1 go live /

Prefilled by stoke team based on Trust returns panel to verify

2) Site 1 delivery readiness /

Evaluation based on 2 factors
a) Confidence in go-live date
b) Quality of implementation plan

Panel provided with guidance sheet setting out criteria against which they are to assess the site

4 Stroke team assigns overall evaluation per option

Stroke team takes site scores and produces option score as agreed by the consistent methodology

Option X go live /

Option X Delivery readiness +

To feed into evaluation matrix

Affordability and value for money

Capital investment required

Under review by Finance Group

- Which options would have the lowest capital costs (cost of buildings and equipment)
- Estimated capital costs for new additional capacity and / or re-purposing capacity, including the number of additional beds required for each site; impact on wider capacity e.g. A&E, critical care; cost of additional equipment e.g. CT scanner, etc.
- Not used as part of the evaluation criteria for the PCBC
- Note £38m was agree as the maximum envelope by the NHS E investment committee at the PCBC stage, and is taken as the mid-point for the neutral evaluation

Proposed evaluation key:

Capital investment required (£m)	Evaluation
£*x* < £30	++
£30 ≤ £*x* < £35	+
£35 ≤ £*x* < £40	\
£40 ≤ £*x* < £45	-
£*x* >£45	--

Evaluation bandings to be agreed by Finance Group

Affordability and value for money

Net Present Value

Under review by Finance Group

- Which options will give the best net present value (overall financial benefit) over the next 10 years
- Lowest NPV / highest NPV, relative to 'do nothing' by:
  - Understanding the total investment requirements including commissioner and provider (up front capital investment, ongoing replacement capex, one-off transition costs, any workforce costs)
  - Understanding the total potential benefits including commissioner and provider (consolidation savings, net change to fixed costs, capital receipts)

Proposed evaluation key:

10yr NPV Criteria (£m)	Evaluation
£*x* > £32	++
£26 ≤ £*x* < £32	+
£20 ≤ £*x* < £26	\
£14 ≤ £*x* < £20	-
£14 > £*x*	--

Model for Community Rehabilitation

Update on Rehabilitation Pathway

Overview of progress

- Rehabilitation working group in place with membership from all Kent and Medway Health and Social care providers
- The working group has met to review best practice models for rehabilitation in order to agree the pathway for Kent and Medway
- A preferred model has been agreed*; this will go to the Clinical Reference Group on the 7th September for confirmation

*based on South East Clinical Network model

Update on Rehabilitation Pathway

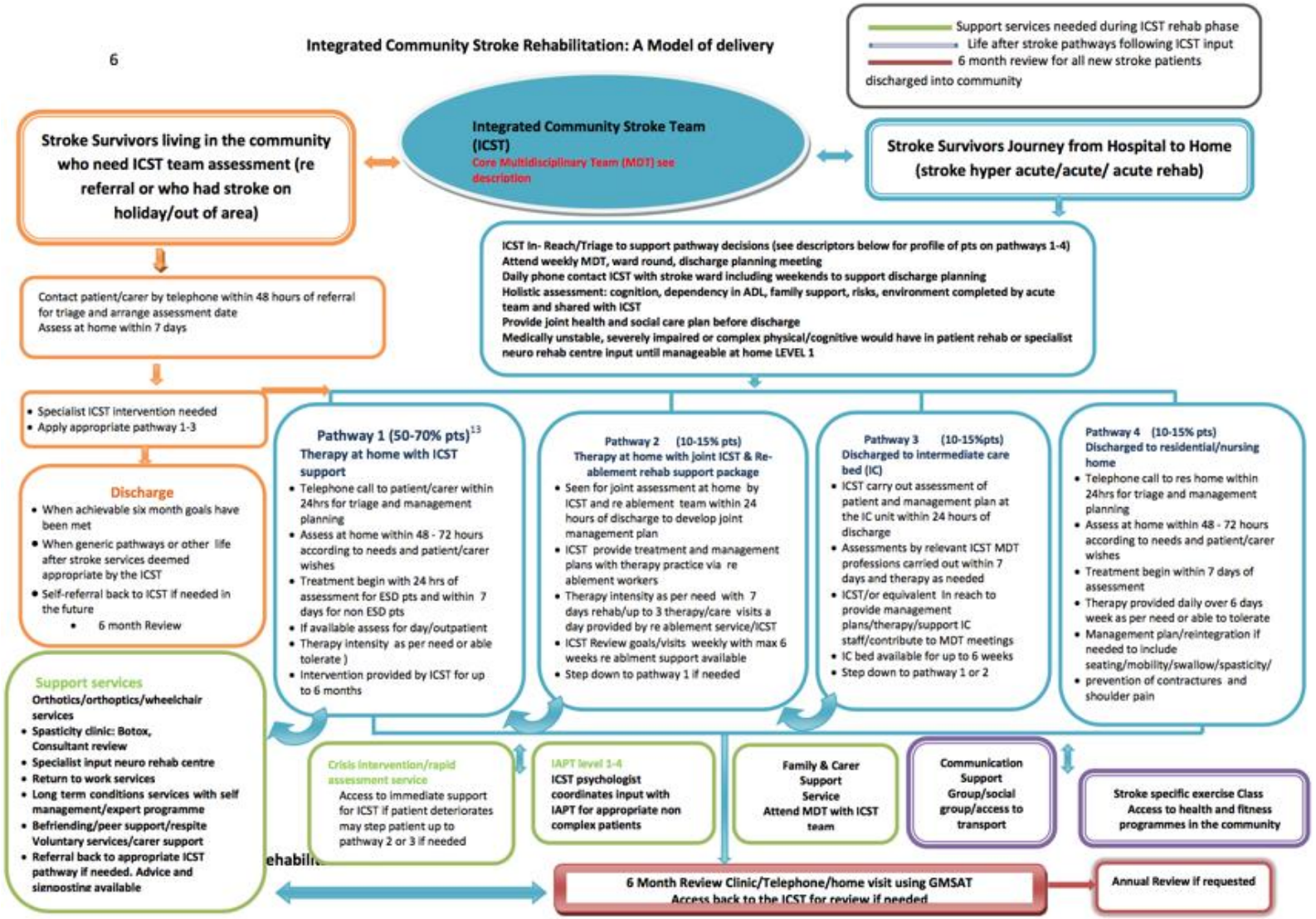
Core principles of Rehabilitation

There is agreement that the rehabilitation model should;

- Be able to respond to individual patient needs, and tailored to their requirements
- Include a specialist stroke MDT who will enable a holistic response
- Be accessible to all stroke survivors, and there should be no waiting list
- Be simple, coherent and easy to navigate
- Focus on the whole person, and should enable access to vocational rehabilitation

Update on Rehabilitation Pathway

Model for Community Rehabilitation



Update on Rehabilitation Pathway

Key elements of the model

- Core Multidisciplinary team

- 4 pathways of support depending on need;
  High functioning – discharged home
  Discharge home with ICST and reablement
  Step down to intermediate care bed
  Discharge to nursing/residential home with ICST support

- 6 month reviews

- Early supported discharge

Update on Rehabilitation Pathway

Next Steps

- Model to be confirmed by the Clinical Reference Group on the 7th September
- Work in progress to map current services against the model and inform commissioning intentions
- Work in progress to agree activity and length of stay assumptions

Suggested further meetings with JHOSC

- **Preferred option workshop: 13 September 2018**
- **Final decision expected: January 2019**

It is proposed to meet with the JHOSC prior to these key dates so the Joint Committee of CCG can take account of the JHOSC's feedback in their decision making.

AOB