KINGSTON HOSPITAL CARDIAC SERVICE REVIEW

Aim

This aim of this paper is to serve as a springboard for discussion between commissioners and local GPs on the effect of decommissioning cardiac services, in particular that of Kingston Hospital NHS Trust cardiac catheterisation laboratory, which provides local patients with diagnostic angiography. It should be noted that many of the staff and facilities used to provide angiography services are also needed to support pacemaker implantation and devices management.

This paper offers three areas for discussion:

- An overview of current cardiac procedures being undertaken on Kingston residents;
- Issues for consideration when planning changes to patient access of cardiac procedures (such as cardiac catheterisation, angiography, angioplasty or pacemaker implantation); and
- An impact assessment of related various scenarios.

Current work undertaken

Patient volumes and case mix

The following sections provide data on the work currently undertaken at Kingston Hospital plus the work being undertaken on behalf of Kingston commissioners at Kingston Hospital and the two main tertiary providers, St George's Healthcare NHS Trust and the Royal Brompton and Harefield NHS Trust. The workloads at the tertiary centres have been included in order contextualise service usage by Kingston residents as part of the wider health economy.

Work load volumes at Kingston Hospital :

Table 1

Based on HES data		**Pacemaker and devices**		**Cardiac catheter > = 19 years**	
Kingston Hospital workload *All PCTs*	Type of Admission	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year
	Non elective	16	17	N/A	68
	Elective	30	57	N/A	277
	Hospital Total	**46**	**74**		**345**
NHS Kingston patients only	Non elective	8	11	N/A	29
	Elective	19	28	N/A	183
	PCT Total	**27**	**39**		**212**
NHS Richmond and Twickenham patients only	Non elective	3	4	2	0
	Elective	6	17	N/A	56
	PCT Total	**9**	**21**	**2**	**56**

Notes on Table 1:

- **HES accuracy -** HES is strongly indicative of clinical work load and case mix. However, a comparison against the local clinicians' database for 2010/11 suggests that pacemaker implantation rates may be under reported in Table 1. (Local data records 100 procedures for 2010/11.) Conversely, a review of work load volumes thus far for 2011/12 seems to suggest that catheterisation volumes are over reported.
- **HES and departmental income -** HES data is the basis for the billing of care. Thus, it is definitively accurate in the calculation of income for services.

Analysis of case mix and patent flows based on 2010/11 data

NHS Kingston patients account for 65% of the work load.
NHS Richmond and Twickenham patients account for 18% of the work load

The majority of cardiac procedures being undertaken at Kingston Hospital are elective.

- Pacemakers - Elective = 78% / Non elective = 22%
- Cardiac catheters - Elective = 88% / Non elective = 12%

A calculation of the full year effect of PBR income for work load volumes for 2010/11 using the 2011/12 HRG tariffs finds:

- Pacemaker / devices - Elective = £154,705 / Non elective = £56,862
- Cardiac catheterisation - Elective = £ 291,404 / Non elective = £202,244

Central unit work loads of cardiac procedures undertaken on Kingston and Richmond and Twickenham residents combined

Based on HES data		**Pacemaker and devices**		**Cardiac catheter > =19 years**		**PCI**	
Total Volume by provider NHS Richmond & Twickenham patients only	Type of Admission	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year
St Georges	**Total non elective**	**9**	**26**	NA	**77**	**55**	**105**
	Total elective	**19**	**30**	NA	**86**	**16**	**29**
Royal Brompton	**Total Non elective**	**5**	**6**	NA	**7**	**3**	**10**
	Total Elective	**35**	**33**	NA	**20**	**37**	**43**
GSTT	**Total Non elective**	**3**	**5**	NA	**19**	**0**	**14**
	Total Elective	**3**	**1**	NA	**10**	**9**	**19**

Analysis of tertiary workloads

Non elective

St Georges undertake the majority of the non elective workload for Kingston and Twickenham residents. The largest portion of the non elective work is PCI.

Elective

Over 60% of elective PCI work is undertaken at either Royal Brompton or Guys and St Thomas. St Georges undertake 74% of the elective cardiac catheterisations cases undertaken in a tertiary centre.

Central unit work loads of cardiac procedures undertaken on Kingston and Richmond and Twickenham residents

Based on HES data		**Pacemaker and devices**		**Cardiac catheter > =19 years**		**PCI**	
St George's Hospital	Type of Admission	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year
NHS Kingston patients only	Non elective	7	20	N/A	61	40	67
	Elective	17	16	N/A	63	14	23
NHS R&T only	Non elective	2	6	N/A	16	11	38
	Elective	2	14	N/A	23	2	6
Total non elective		**9**	**26**		**77**	**55**	**105**
Total elective		**19**	**30**		**86**	**16**	**29**

Based on HES data		Pacemaker and devices		Cardiac catheter > =19 years		PCI	
Royal Brompton	Type of Admission	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year
NHS Kingston patients only	Non elective	4	4	N/A	1	2	6
	Elective	24	18	N/A	19	27	31
NHS R&T only	Non elective	1	2	N/A	6	1	4
	Elective	11	15	N/A	15	10	12
Total Non elective		**5**	**6**		**7**	**3**	**10**
Total Elective		**35**	**33**		**20**	**37**	**43**

Based on HES data		Pacemaker and devices		Cardiac catheter > =19 years		PCI	
GSTT	Type of Admission	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year	2009/10 Q3 & Q4	2010/11 Full year
NHS Kingston patients only	Non elective	0	2	NA	13	0	10
	Elective	0	0	NA	6	8	14
NHS R&T only	Non elective	2	3	NA	6	0	4
	Elective	3	1	NA	4	1	5
Total Non elective		**3**	**5**		**19**	**0**	**14**
Total Elective		**3**	**1**		**10**	**9**	**19**

Issues for consideration

Maintenance of patient choice for having care delivered as close to home as possible – cost effectively

This could be supported by repatriating elective pacemaker and angiogram procedures currently undertaken at the Brompton to the Kingston site, and repatriating Brompton elective cardiac stenting procedures to the St George's site.

It is likely that a significant amount of the emergency work load currently undertaken at Kingston and the Royal Brompton will relocate the St George's site as part of the definitive pathways for NSTEACS and emergency arrhythmia care within the London Cardiovascular Project (LCVP).

Assurance that current service meets agreed standards of quality and access for Kingston residents for elective and emergency care

Changes in contract volume will have an impact on the 18 week pathway delivery. Commissioners will want assurance that services meet quality and access standards for Kingston residents. Providers will need to ensure they have the capacity and resources to demonstrate delivery of quality care within agreed time frames.

The impact of additional emergency and out of hours work must be factored in to this capacity for the teams at St George's. That is, the pathways of the LCVP will change the management of non elective flows, increasing the work load for the St George's service.

The ability to recruit and retain highly qualified, substantive appointments in traditionally hard-to-recruit specialties such as cardiac physiologists and cardiac specialists nurses

It is unlikely that there would be a major impact on the staffing at St George's. As a network hub, it is likely to retain a stable work force, and provides support and training for all members of the multidisciplinary team (MDT).

In contrast, changes to services (shifts in case mix or a reduction of services provided on site) at Kingston Hospital would affect recruitment, training and maintenance of skills. Innovative approaches to staffing would help overcome these issues, including increased networking of services, joint appointments, collaborative training and the option for staff rotation with key members of the MDT.

The ability to provide the local components of the arrhythmia pathway within the London Cardiovascular Project

Providing quality arrhythmia care within the LCVP requires access to a skilled local multidisciplinary team with the infrastructure, staffing levels and training needed to manage elective pacemaker implantation and follow up care.

This means that Kingston Hospital must have the staff and resources in place not only to maintain the services, but to grow them. The model advocates close working relationships between the medical teams and MDTs at the hub and spoke sites. It may be that some of the current elective

work load for implantation and devices carried out at the Brompton and St George's could be undertaken at the Kingston site.

The ability to maintain onsite access to a wide range of cardiac diagnostic skills for all inpatient and outpatient teams

If Kingston Hospital is unable to maintain a significant and safe volume of elective activity for implantation of devices and cardiac catheterisation it would lose the ability to provide these services. Highly skilled members of the MDT would likely leave its employ as they would find their roles less interesting. Or, if they did remain, they would find it hard to maintain their skill level as a result of diminished practice. This would reduce the level of diagnostic skills available on site for all inpatient and outpatient teams at Kingston. However, it would be possible to maintain these services if network arrangements were agreed, with staff being offered the opportunity to work at a network hub.

Changes to patient flow will increase elective and emergency work load into St George's

The cost of commissioning services with alternative providers may increase the cost per case as the market forces factor (MFF) is different for each provider. Trusts such as St George's, Guy's and the Royal Brompton have a significantly higher MFF than that for Kingston.

NEXT STEPS

Undertake a more detailed options appraisal of changes to commissioning of services.

Option	Changes to elective and non elective activity	Revenue costs / capital costs	Strengths	Weaknesses	Opportunities	Supports the LCVP pathways and delivers a QIPP model of care for the health economy
Do nothing (Leave current services in cath lab as they stand)	Nil	Nil				LCVP: No QIPP No
Decommission Kingston cath lab (Stop providing elective and emergency interventional services at site)	300+ change in work load	Annual loss of income to Kingston Trust in region of of £494, 000 Additional income to go to alternative provider. An increase provider MFF would have and increased costs to Kingston PCT				LCVP: Yes QIPP Yes
Provide current volumes of elective cardiac catheterization, and transfer all non elective to St George's	68 cases	Annual loss of income to Kingston Trust in region of £200,000 Increased income to St Georges An increase provider MFF would have and increased costs to Kingston PCT				LCVP: Yes QIPP No
Increase elective work load at Kingston by agreeing a network arrangement with St George's.	Would depend on model	Could be cost neutral or marginal in term of income for Kingston and St Georges				LCVP: Yes QIPP Yes
Other option						