

Rapid Access Multiple Sclerosis Unit (RAMSU)

Business case 2019/20

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Executive Summary

Multiple sclerosis (MS) is common, complex and costly. Affecting largely younger patients, it is the most common central nervous system disease of people in their 20s and 30s. The MS team at South Tees provides care for over 2000 people with MS and we expect roughly 100 new presentations each year.

The majority of patients will require complex immunotherapy and, despite this, many will go on to develop progressive neurological disability. MS leads to a range of problems including weakness, spasticity, falls, urinary and faecal incontinence and swallowing problems. These longer-term complications place patients at high risk of prolonged hospital admission.

MS patients at South Tees are more likely to be admitted to hospital than comparator CCG regions and, once admitted, their hospital stays are prolonged compared to the national average. Costs in the region are very high. South Tees spent £1.5M on unscheduled care for MS patients in 2016-17, and many of these admissions could be avoided with a more responsive service model.

Modelled on the successful Parkinson's Advanced Symptoms Unit, the Rapid Access Multiple Sclerosis Unit (RAMSU) will provide a rapid-access, community-based multidisciplinary team targeted at those patients with greatest risk of admission - newly diagnosed patients, those with active disease and those with spasticity or incontinence. The focus will be on delivering timely interventions to ensure a reduction in hospital admissions and, wherever possible, facilitate early discharge from hospital.

The costs to South Tees NHS FT will come from staffing the unit but these will be offset by efficiency savings generated by better management of patients. The RAMSU service will also provide a more streamlined general neurology outpatient service, bringing down waiting times in what is acknowledged to be an area of poor performance for the Neurology Department. If an enhanced tariff can be agreed with the local CCGs then the staffing costs will be met by this additional income.

Proposal to Commissioners

Costs

The proposed tariff, covering the service costs is £450 per patient episode.

This provides for a full team assessment in clinic, inclusive of subsequent community follow-up. This is additional resource dedicated to the RAMS service not currently provided within block contract services.

Based on the current commissioning arrangements, across the local CCGs supporting the service, and specialist commissioning, projected costs (2019/20) can be broken down as follows:

		Expected cost (£)
Total	250 patients per year	112,500
Commissioner	Percentage of case mix	
NHSE NESCT	26%	29,250
South Tees CCG	36%	40,500
HRW CCG	17%	19,125
DDES CCG	4%	4,500
Other	17%	19,125

Potential savings

Cost reduction and cost avoidance		
Reduction in emergency admissions (10%)	£150,000	value of bed days saved
Reduction in length of stay (20%)	£300,000	value of bed days saved
Total	£450,000	

Strategic Fit

What is MS?

Multiple Sclerosis (MS) is the most common central nervous system condition affecting young adults. It causes inflammation of the optic nerve, brain and spinal cord. MS is usually diagnosed when people are in their 20s and 30s, although can present at any age.

MS can lead to acute episodes of neurological dysfunction (relapses) as well as more progressive disability. Relapse management involves the use of preventative immunotherapy, with requirements for safety and efficacy monitoring. Progressive MS leads to spasticity, declining mobility and falls as well as bladder and bowel dysfunction. These more chronic problems necessitate a multi-disciplinary team approach.

How common is MS?

There are over 89,000 people living with MS in England alone. Prevalence figures suggest that, within the catchment area of the South Tees Neuroscience Department (population 1,000,000 adults) we can expect around 4000 people with MS. Incidence figures suggest around 170 newly diagnosed patients each year. These estimates are likely to be an overestimate, but it would be reasonable to expect 100 new cases diagnosed each year. In the Middlesbrough and Stockton area alone (population 270,000) we can expect over 500 people living with MS, and 23 new diagnoses each year.

The local MS service has an active case load of 2000 patients, with a ratio of patients:MS nurses of 670:1.

How are services structured at present?

Diagnosis is made through GP referral to general neurology clinics in Middlesbrough and the surrounding areas. Newly diagnosed patients are then referred to the MS nurse specialists for further discussions about symptom management and potential treatments.

Most patients are followed up by individual general neurologists, but those requiring more aggressive therapies, around 10%, have their care transferred to one of two consultants with a special interest in MS. Separate referrals are required to spasticity, urology and continence services, as needed, and further input is sought from physiotherapy and occupational therapy when required.

Patients typically see their neurologist, or MS nurse, on a six-monthly basis. If patients have a relapse then they are typically seen in an on call clinic. The average wait for review in this setting is 4 weeks and this delay may lead to default admission by the GP, or self-referral to A&E services.

The case mix in the service is as follows:

- Newly diagnosed patients (per year) = 100
- Case register (South Tees service) = 2000
- Active or highly active disease (10%) = 200
- High-risk disease-modifying drugs = 200
- Complex needs (combined spasticity, bladder and bowel dysfunction) = 400

The number of patients on high-risk, disease-modifying drugs has risen quickly over the last 5 years. Although specific figures vary by drug, there has been at least a 50% increase in all the disease-modifying therapies over this time. There are now over 200 patients on medications that require:

- complex counselling prior to commencement
- regular blood and MRI monitoring
- can necessitate attendance on the ward/day unit for infusion

Proactive use of disease-modifying drugs reduces relapses in this “high risk” group of patients by 50%, and will reduce complications and emergency admissions in the future. The direct cost of drug provision is met by NHS England. The hidden “cost” of their use, however, is the extra requirement on the MS team if they are to be delivered in a timely and safe manner. This has changed the service structure considerably in the past 5 years.

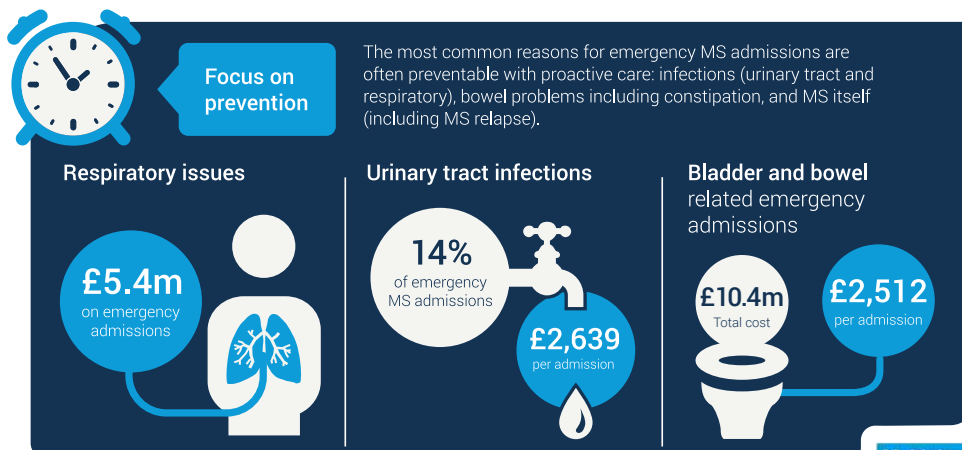
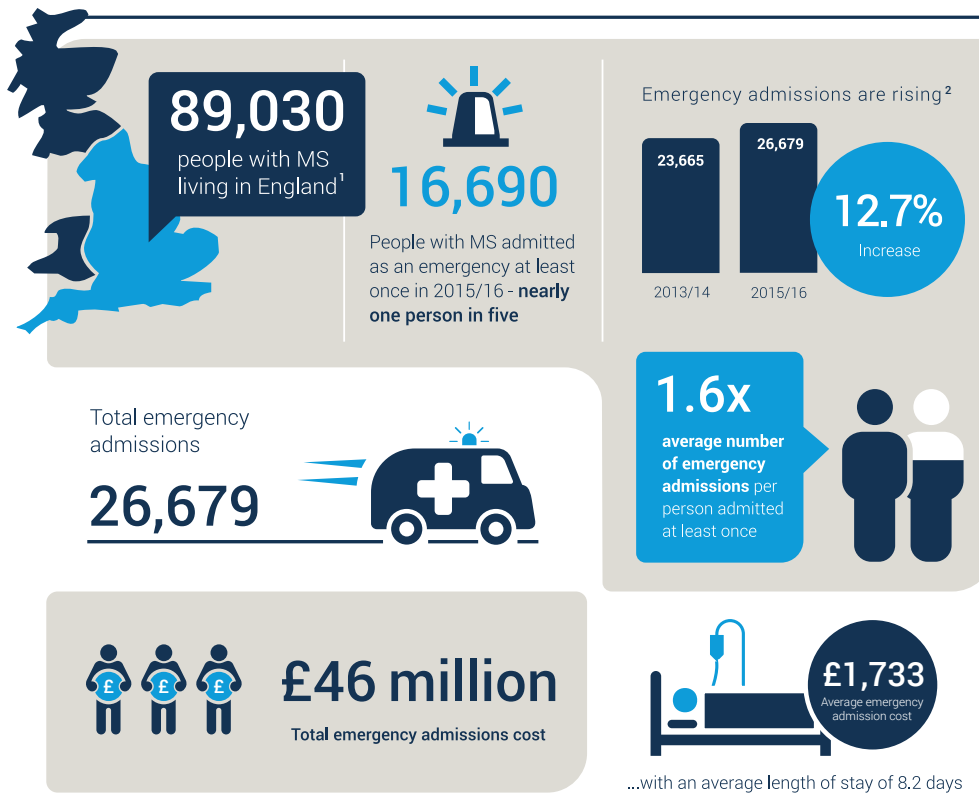
The re-focusing of priorities and resources has reduced the amount of time available to manage the complications of more progressive disease, increasing the risk of unscheduled admissions due to urinary infection, severe constipation or spasticity. It is this comorbidity that results in the longest admissions, and the greatest costs, to healthcare services in the region.

The cost and burden of MS

MS patients are at high risk of emergency admission, either due to acute relapses or complications of their MS (Figure 1). Secondary care data taken from the English Hospital Episode Statistics (HES) database shows that, in 2017/18, there were 29,449 emergency admissions to hospital for people with MS (for 18,324 people; average 1.6 emergency admissions per person). These admissions cost the NHS just over £49 million.

FIGURE 1

Multiple Sclerosis Emergency Admissions in 2015/16



Wilmington Healthcare

wilmingtonhealthcare.com

Sources: ¹ MS Society MS in the UK 2016 | ² See www.nhs.com/ms-report

Secondary care data is taken from the English Hospital Episode Statistics (HES) database produced by NHS Digital, the new trading name for the Health & Social Care Information Centre (HSCIC, www.hscic.gov.uk/hes) Copyright © 2010–2017, re-used with the permission of NHS Digital. All rights reserved.



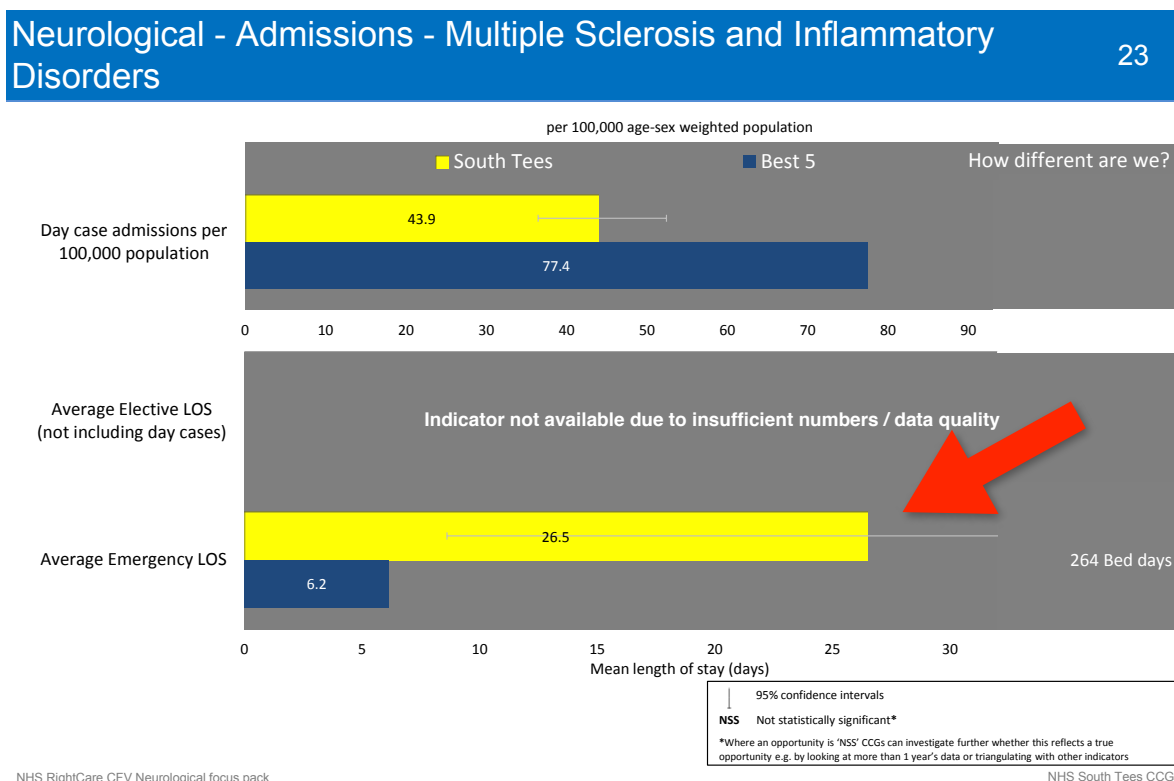
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Proactive use of disease-modifying therapies has been shown to reduce the risk of acute admission for relapses, and a more responsive service is central to delivering this. Bladder, bowel and respiratory complications are particularly costly and can lead to prolonged admissions. Spasticity affecting the lower limbs complicates many hospital admissions, leading to increased risk of falls and long term disability.

Referral times to individual specialties are long, and can lead to delays in treatment, increased risk of complications and unnecessary costs to health care services. For a patient in need of neurologist and specialist nurse input, coupled with bladder and spasticity management, the delay can be up to 120 days.

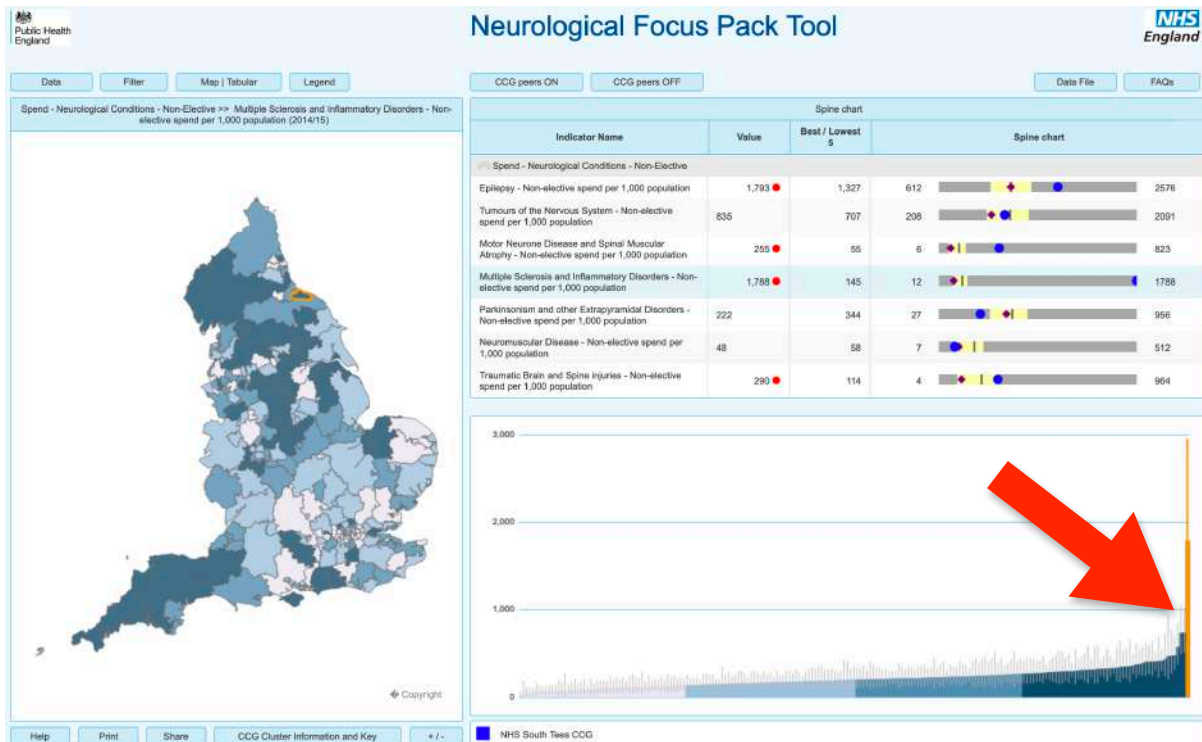
Emergency admissions to South Tees are common and costly. Right Care data (2016) show that our length of stay for emergency admissions is longer than comparator CCG regions (26.5 vs 6.2 days) (Figure 2). The national average is 8.2 days.

FIGURE 2



The cost of unplanned admissions in South Tees is considerable - £1788 per 1000 population (best CCG region £145 per 1000) - making South Tees an outlier in terms of healthcare costs for inpatient MS (Figure 3). In 2016-17, there were 270 emergency admissions for “MS” in South Tees NHS FT. With an average length of stay of 26.5 days, these accounted for over 7000 bed days, at a projected cost of over £1.5M to the Trust.

FIGURE 3



In order to meet the needs of the local MS population, and provide a safer and more cost-effective service, we propose to set up a new service within the South Tees Neuroscience Department - the Rapid Access Multiple Sclerosis Unit (RAMSU).

The RAMSU seeks to address the risks that lead to hospital admission, and contribute to clinical deterioration, by providing a rapid-access, community-based multi-disciplinary service. This will aim to provide timely use of disease-modifying immunotherapy in newly diagnosed patients, prompt outpatient management of potential relapses, therapy-led interventions for spasticity and proactive treatment of bladder and bowel problems.

It is anticipated that reductions in emergency admissions will improve patient quality of life and reduce neurological disability. Safer use of high-risk drugs will be achieved through better pre-treatment counselling and tighter monitoring of potential complications, reducing the risk footprint of the service. In addition, the RAMSU service will deliver cost savings for South Tees NHS FT and local CCGs.

We anticipate being able to reduce emergency admissions by 10% and length of stay by 20% by having a more responsive, multi-disciplinary team approach. It is anticipated that these savings will offset the cost of staffing the RAMSU.

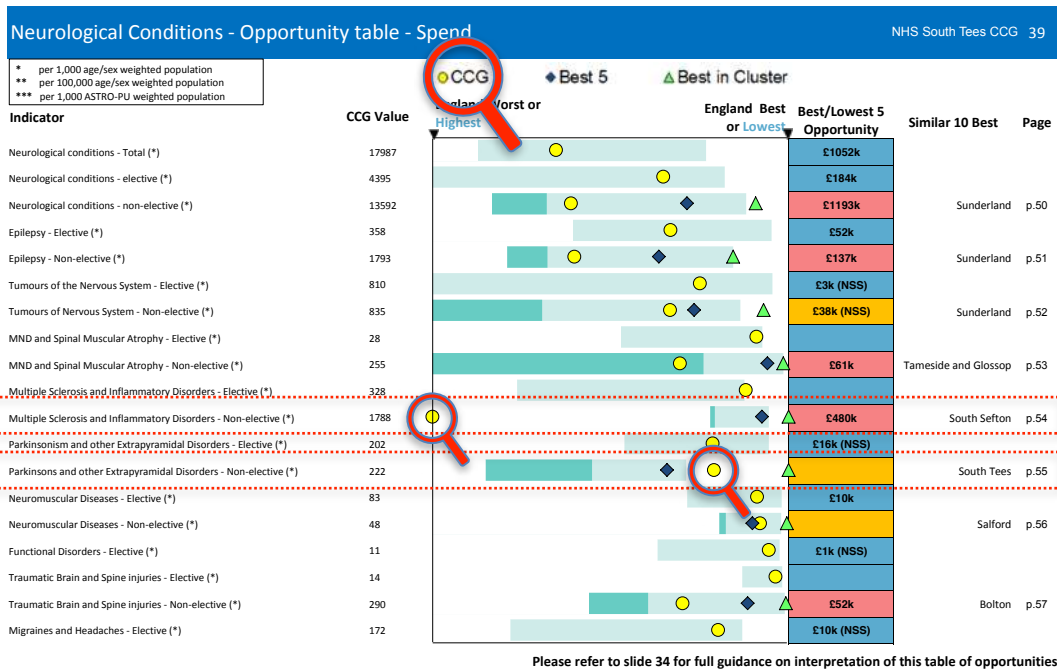
1. RAMSU service model

Currently, the core MS service is led by three full-time MS nurses (MSNs), supported by a 2 neurologists (2 PAs per week job planned activity). The diagnostic service is delivered across the region by all consultant neurologists. Referrals are made to physiotherapy (physio), occupational therapy (OT), spasticity and continence services as required.

We are typically able to offer two, 15-minute review appointments per year and struggle to see patients in a timely manner either for diagnosis (18 week wait), commencement of disease-modifying drugs (6 week wait) or treatment of relapses (4 week wait). Onward referrals for the assessment and management of complications such as spasticity, requiring neurophysiotherapy and botulinum toxin treatment, or incontinence, requiring bladder scanning and urology nurse input, lead to further delays and increased the risk of unscheduled admissions.

The RAMSU template is modelled on the Parkinson's Advanced Symptoms Unit (PASU), also based at South Tees. This service has been running for 4 years and has received a number of national awards (Patient Safety Awards (2016), Parkinson's Excellence Awards (2017 & 2019) and Big Ideas for Better Health (2018)). The PASU service has delivered better patient outcomes in a cost-effective manner and costs for Parkinson's disease emergency admissions are considerably lower than in comparator CCG regions. In contrast, costs for emergency MS admission in South Tees are among the highest (Figure 4).

FIGURE 4



The RAMSU team will consist of:

- MS nurse
- Neurologist
- Pharmacist
- Physio - with spasticity training
- Occupational therapist
- Urology nurse
- Admin support

The clinic will be based at Redcar Primary Care Hospital and offer a half day MDT clinic, with 6 slots per week (250 per year). Referrals will come from members of the RAMSU team, or consultant neurologists, with priority given to newly diagnosed patients, those with active relapsing disease or at risk of unscheduled admission due to spasticity, bladder or bowel complications, deteriorating mobility or rising care-giver strain. MS patients will be able to use the MS helpline to access RAMSU, following discussion with one of the team.

Appointments will be available at short notice to ensure that emergency admission is not the default pathway. We envisage the median length to review will be 10 days, with emergency slots available each week. This model of care will prove more cost-effective both for the Trust and the local CCGs (Figure 5 & 6).

FIGURE 5. RAMSU SERVICE MODEL SHOWING COST OF “BUSINESS AS USUAL” VERSUS THE COST OF THE RAMSU SERVICE.

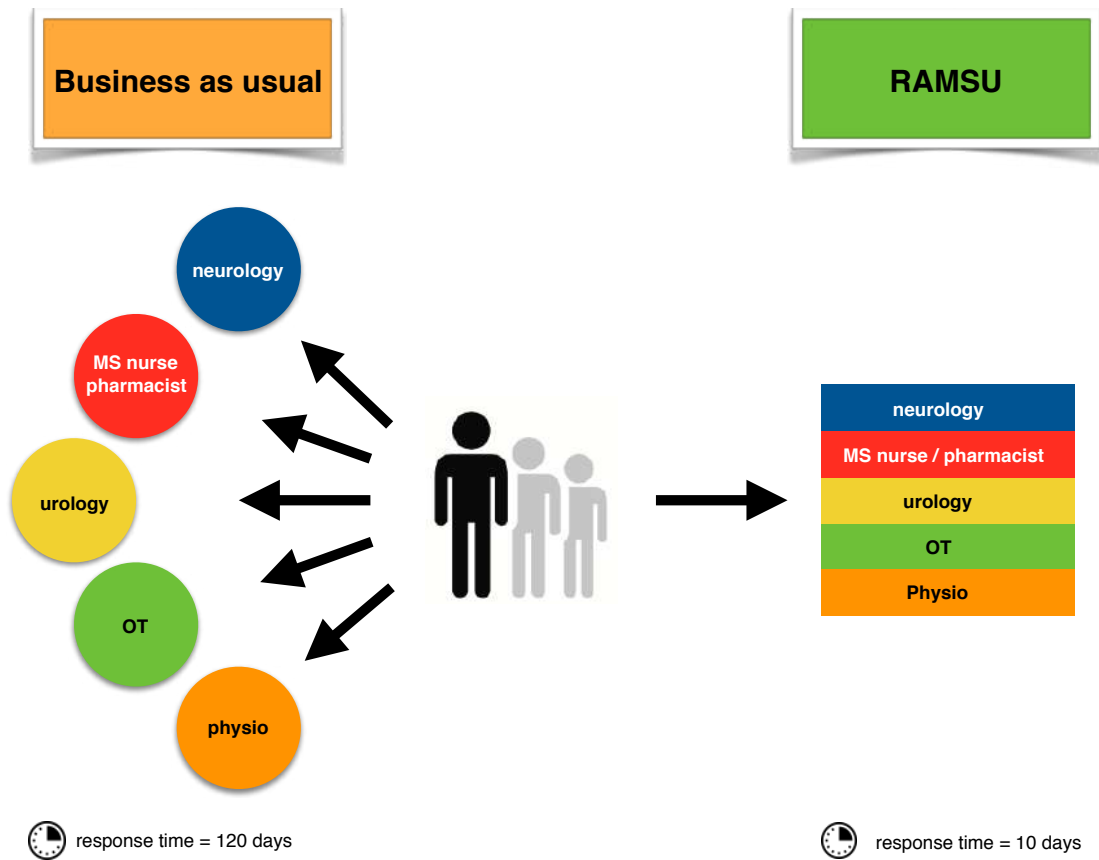
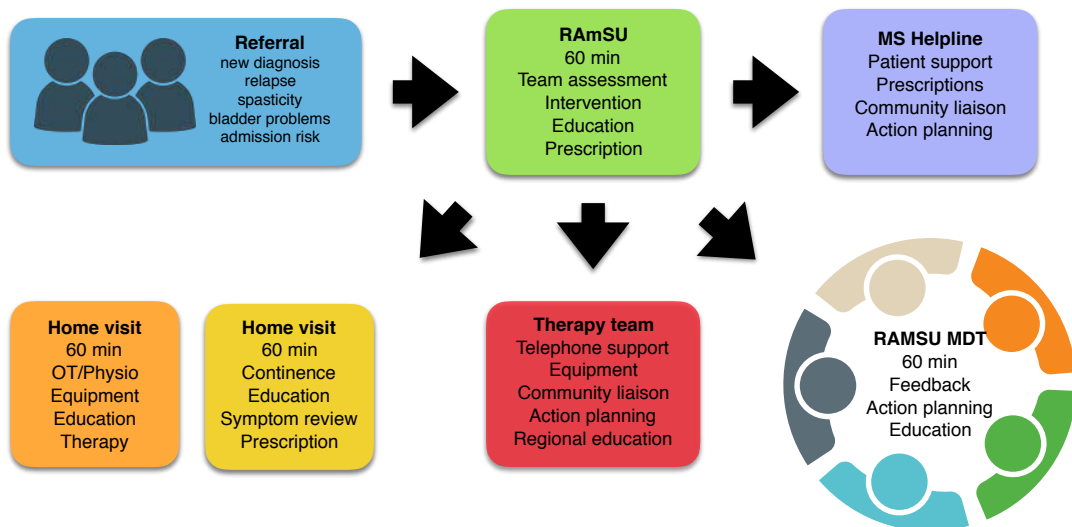


FIGURE 6

Typical RAMSU appointment



Community follow-up will be offered by members of the MDT, particularly for those patients in need of spasticity management, or who have increased care needs at home due to a deterioration in their neurological function. Continence care will be delivered both at the RAMSU, and at home.

Some of the staff required will come from already job planned activity (neurologist, MS nurse) and others will require backfill from other departments. In total, the staffing costs will be £68,310 per annum.

A risk management MDT will be built in to the model to ensure that patients on high-risk drugs, many of whom will require regular monitoring, can be discussed with key members of the RAMSU team.

It is envisaged that the RAMSU will act as a training hub for therapists, and district nurses, who come in to contact with MS patients in the community.

Triaging complex patients into the RAMSU service will increase the efficiency of the parallel “routine” MS services. We will be able to offer 10 additional appointments per month in routine neurology clinics - reducing our waiting time from 8 months to 6 months.

2. Service Performance and Impact

Benchmarking data are already routinely collected for the service, including:

- Number of patients open to the team
- Number of patients on disease-modifying therapies
- Number of patients receiving appropriate monitoring
- Hospital admission rates
- Length of stay

We intend to provide an annual service review once RAMSU is open, allowing us to proactively assess the impact of the service on a variety of key metrics. The PASU model has shown that it is possible to reduce emergency admissions and length of stay and we would aim to replicate this impact through the RAMSU model.

We will look to compare HES data after RAMSU has been open for 12 months to assess impact and will also collate local data from South Tees NHS FT itself. We will specifically look at rates of admission due to problems with bladder or bowels and, specifically, urinary tract infections. A reduction in length of stay and in emergency admissions would offset the cost of service set-up within the Trust.

3. Quality Metrics

We will also assess the impact of the service by using clinician and patient questionnaires and outcome measures.

We have been careful to choose metrics that have direct relevance to clinical practitioners, and have avoided complex and time-consuming research tools. All are free to use, quick to complete, familiar to practitioners and widely available. We hope this approach will help others to judge the external validity of our findings.

These will be completed by patients prior to their appointment and then at the end of the RAMSU intervention period.

The metrics chosen are:

LTC Questionnaire 6

<http://personcentredcare.health.org.uk/resources/ltc6-questionnaire>

The LTC6 Questionnaire asks patients within a long term condition about their healthcare over the last 12 months. It includes questions about involvement in decision-making, although the focus is on self-management. The measure can be used to drive improvements at both the population and provider level.

Time to self-administer: 5 minutes

EQ 5D 5L Questionnaire

https://euroqol.org/wp-content/uploads/2016/10/Sample_UK_English_EQ-5D-5L_Paper_Self_complete_v1.0_ID_24700.pdf

EQ-5D is a standardized instrument for measuring generic health status. It has been widely used in population health surveys, clinical studies, economic evaluation and in routine outcome measurement in the delivery of operational healthcare.

EQ-5D is designed for self-completion and as such captures information directly from the respondent, thereby generating data that conforms with the general requirement of all Patient Reported Outcome (PRO) measures.

Time to self-administer: 10 minutes

4. Figures

South Tees Neurosciences Unit catchment population	1,000,000	
Tees Valley population (Middlesbrough, Stockton-in-Tees; Census data 2016)	272,574	
MS incidence	12/100,000 (female)	5/100,000 (male)
MS prevalence	285/100,000 (female)	113/100,000 (male)
Projected local prevalence		
Neuroscience catchment area	3980	2850 female; 1130 male
Tees Valley	542	388 female; 154 male
Projected local incidence		
Neuroscience catchment area	170	120 female; 50 male
Tees Valley	23	16 female; 7 male
South Tees MS service case load	2000	

	Cost (£)	Who pays?
Acute medical care (LoS 8 days, national average)	1733	CCG
Bladder/Bowel admission	2512	CCG
UTI in MS	2639	CCG
Prolonged admission (26.5 days, South Tees NHS FT)	5740	CCG

5. References

1. NHS Right Care document

<http://tools.england.nhs.uk/cfv2016/neurological/atlas.html>

<https://www.england.nhs.uk/rightcare/products/ccg-data-packs/focus-packs/focus-packs-for-cvd-neurological-respiratory-maternity-april-2016/>

2. NICE MS guidelines (2017)

<https://www.nice.org.uk/guidance/cg186>

3. Pirttialo et al. (2018) Adult hospital admissions associated with multiple sclerosis in Finland in 2004–2014, *Annals of Medicine*, 50:4, 354–360, DOI: [10.1080/07853890.2018.1461919](https://doi.org/10.1080/07853890.2018.1461919)

4. Nortvedt et al. (2007). Prevalence of bladder, bowel and sexual problems among multiple sclerosis patients two to five years after diagnosis. *Multiple Sclerosis Journal*, 13(1), 106–112. <https://doi.org/10.1177/1352458506071210>

5. Local Tariff

A local tariff of £450 per patient episode is proposed based on:

Team role	Band	WTE	Pay 1718 + 1%	Comment
Consultant Neurologist	Cons	1.5PA	Job plan	
MS Nurse Specialist	B7	0.1	Job plan	
Urology specialist nurse	B6	0.4	£16,495	Midpoint +2
Occupational Therapy	B6	0.4	£16,495	Midpoint +2
Physiotherapy	B6	0.4	£16,495	Midpoint +2
Therapy Assistant	B3	0.4	£9,039	Midpoint +2
Pharmacist	B8a	0.1	£5,732	Band 8 04
Admin Support	B2	0.2	£4,054	Midpoint +2
Total			£68,310	

The locally agreed tariff is based on the additional resource costs of running RMASU. These are mainly detailed above. The cost of the Consultant Neurologist and MS Nurse Specialist are not included, as the service and associated clinic care is associated with their respective job plans. Currently associated annual costs are £68,310.