NHS Improvement

Seven day hospital services: case study

South Warwickshire NHS Foundation Trust

March 2018

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South Warwickshire NHS Foundation Trust

Summary

South Warwickshire NHS Foundation Trust (SWFT) developed its seven day service model by redesigning urgent and emergency care and specialist services pathways, investing in weekend staffing for key services and improving patient flow across the hospital 24 hours a day, seven days a week. SWFT says this approach has led to a reduction in mortality rates, severe incidents and readmission rates. Average length of stay has decreased and higher discharge rates have reduced delayed transfers of care. This has been funded through incremental investments each year from 2012 onwards and now costs around £940,000 per year, mostly on additional staffing. Leadership and a focus on the benefit to patients of better out-of-hours care have been core to the approach. Maximum financial benefits are estimated at £3.8 million, including savings attributable to wider actions by the trust to use capacity more efficiently and improve patient flow through the hospital.

Table 1: Summary of South Warwickshire's seven day service model

Provider type	Acute and community provider
Objective	To provide an 'acute patient experience that is the same any day of the week'
Date implemented	From 2012 (phased over time)
Service model description	Incremental, clinically led restructuring of urgent and emergency and specialist services pathway. Seven day services rolled out across A&E, radiology, pathology, pharmacy, cardiology, gastroenterology, gynaecology, obstetrics and respiratory service lines
Priority clinical standards – March 2017	Met priority clinical standards 2 (time to consultant review), 5 (access to diagnostics) and 8 (ongoing review)
Key benefits[1]	• Reduction in length of stay from 5.75 to 5 days • 42% reduction in severity of incidents • 5% reduction in readmission rates • Reduction in severe incidents
Key enablers	• Effective governance • Financial stability • Clinical leadership • Staff empowerment • Incremental and organic change
Key challenges	• Discharging into community and social care setting • Commissioner affordability • Staff contracts
Maximum financial benefits[2]	£3,780,000 per year, including wider actions by the trust to use capacity more efficiently and improve patient flow
Current annual costs	£940,000 per year (0.4% of patient income)
Cost drivers	• Almost all costs relate to additional staff – largely consultants and medical nurse practitioners • Non-pay costs relate to additional software

[1] Benefits measured during implementation of seven day services; includes the impact of ward closures and wider actions to improve patient flow through the hospital.
[2] See Table 3: Maximum financial savings per year.

Introduction

The seven day hospital services programme is designed to ensure patients requiring emergency treatment receive high quality, consistent care, whatever day they enter hospital. Local systems need to work together to deliver effective and compassionate seven day services that meet the four priority clinical standards.[3]

This case study describes the service model being implemented at SWFT. It provides background information about the approach and identifies the costs, benefits and enablers that have made the model at SWFT successful.

Service model

SWFT provides acute and community health services from four sites. It serves a population of more than half a million,[4] with a high proportion of elderly people. It runs a Type 1 accident and emergency service from Warwick Hospital (serving a population of 270,000),[5] the main site and district general hospital. About 50% of non-elective patients admitted to Warwick Hospital are over 75,[4] and the trust estimates that fully assessing frail patients takes twice as long as other patients.[4]

SWFT is implementing its seven day service model incrementally, focusing on the full emergency pathway and patient flows – from front to back door. SWFT's goal is to provide an **'acute patient experience that is the same any day of the week'**. It is building the model around internally generated solutions to pathway inefficiencies and blockages prevalent in many trusts. The trust began implementing seven day urgent and emergency care services in 2012 to improve patient experience and outcomes after working with the Health Foundation on the 'Flow, Cost, Quality' programme.[6] Through this programme, SWFT had identified that lack of capacity in the evening and at weekends was key to improving patient safety and reducing costs. SWFT set out to improve weekend mortality rates, length of stay and clinical outcomes. Through the 'today's work today' initiative[7] and work with the Health Foundation, SWFT identified critical points in patient pathways that required

[3] *Seven day services clinical standards*, February 2017. https://improvement.nhs.uk/resources/seven-day-services/#h2-the-10-clinical-standards
[4] South Warwickshire NHS Foundation Trust: 'Spreading best practices in emergency care' workshop.
[5] South Warwickshire NHS Foundation Trust: *Ambulatory emergency care: the impact on acute care services.*
[6] The Health Foundation: 'Flow, Cost, Quality' http://www.health.org.uk/node/191
[7] *South Warwickshire's whole system approach transforms emergency care.* https://improvement.nhs.uk/resources/south-warwickshire-whole-system-approach-case-study/

redesign to meet the needs of a seven day urgent care service. In addition to having more senior clinical decision-makers available to avoid unnecessary admissions and manage triage, the trust has developed comprehensive weekend and out-of-hours radiology and pharmacy services.

Key benefits

Since the development of its services, SWFT has seen a 42% reduction in the number of incidents resulting in harm and a 5% reduction in readmission rates. Average length of stay has decreased from 5.75 to 5 days. There has been a reduction in severe incidents.

SWFT met three out of four priority clinical standards in March 2017.

Table 2: Performance against the priority clinical standards at March 2017

	Standard 2 (admission)	Standard 5	Standard 6	Standard 8
South Warwickshire NHS Foundation Trust	94%	100%	78%	99%
Status	Met	Met	Not met	Met

Urgent and emergency admissions and assessment

SWFT is targeting the pathways of frail patients. The trust launched several rapid discharge initiatives to improve patient flow, and in January 2016 opened an out-of-hours acute decisions unit (ADU), to ensure patients were referred to the right specialism first time around.

Getting frail patients home more quickly required earlier assessment and care planning. The care-of-elderly consultant team provided front-door consultant frailty cover within existing resource, Monday to Friday. This was enabled through self-led, proactive job planning. It also extended the availability of senior decision-makers out of hours to more closely align clinical capacity with patient demand. Frail patients were more effectively triaged at the front door by a consultant, triage nurse or by the ADU before referral to frailty wards. Figures 1 and 2 compare the

Figure 1: The frailty pathway before 2016

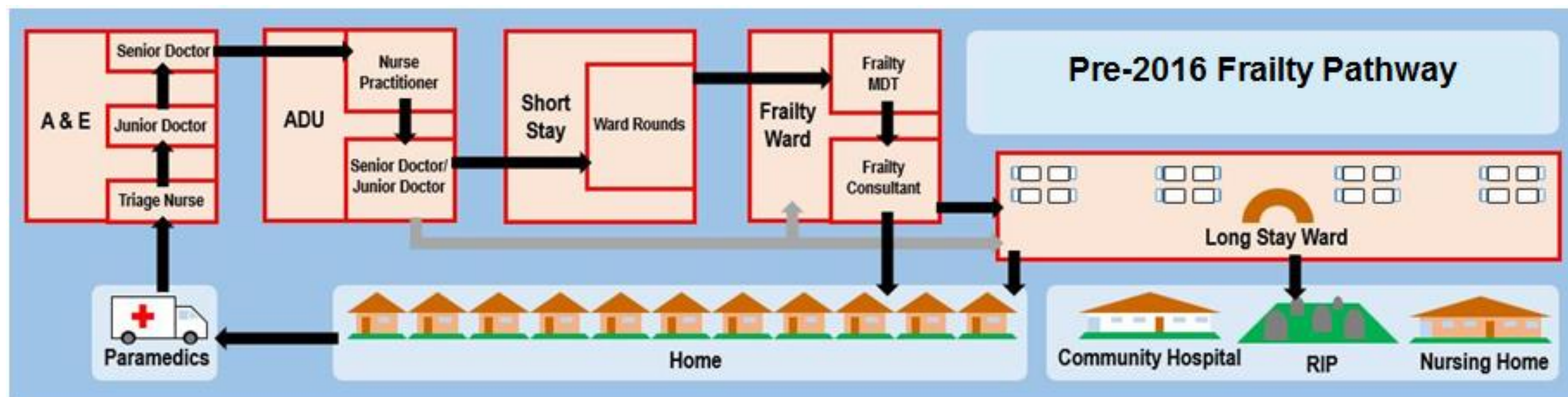
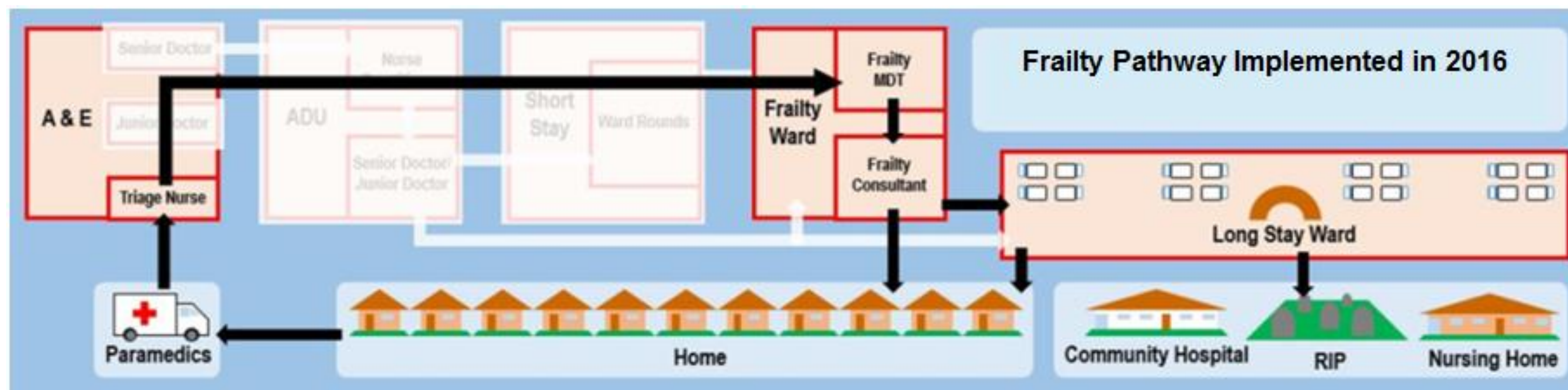


Figure 2: One of three frailty pathways implemented in 2016

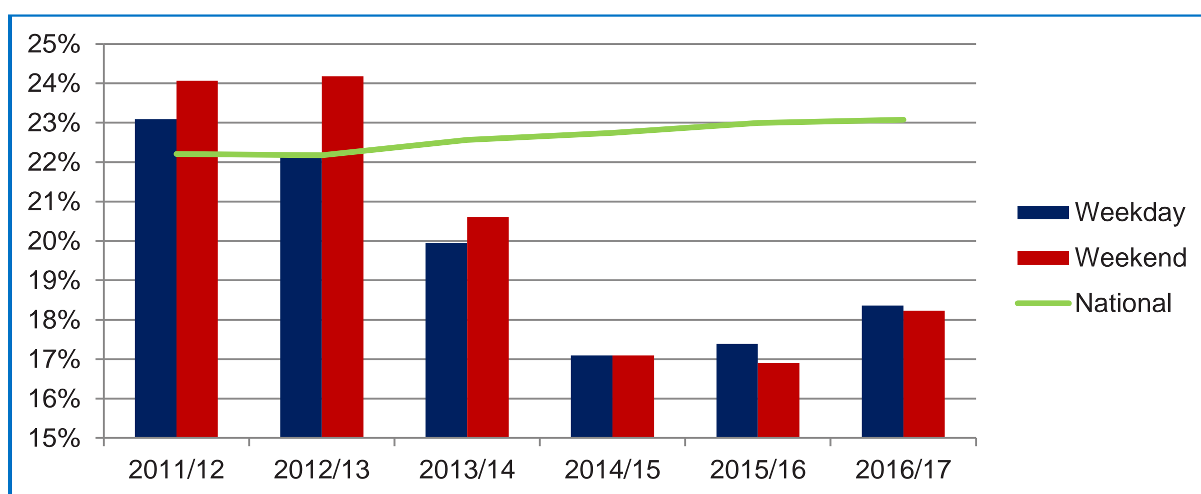


Source: South Warwickshire NHS Foundation Trust: 'Spreading best practices in emergency care' workshop.

frailty A&E pathways before and after 2016. To enhance this service and promote early discharge, additional senior physiotherapists and occupational therapists were allocated to the A&E and ADU.

The trust believes that having senior clinical decision-makers on site out of hours, particularly over the weekend, has reduced readmission rates. Since 2012/13 they have fallen by 5% (see Figure 3). When patients are admitted, they are referred to the right specialism first time around through ADUs and triage nurses, which has reduced typical bed occupancy to 80% in short-stay wards.

Figure 3: Percentage of patients readmitted having been originally admitted at a weekend and on a weekday



Source: Dr Foster

Support services

The trust recognised that support services needed to function seven days a week so that day of admission did not affect patient flow, and unavailable diagnostics or drug dispensation did not block pathways.

Currently radiology, pathology and pharmacy departments all run a seven day service from 8am to 8pm under different service models including outsourcing, developing local partnerships and redesigning working rotas. Prompt diagnosis and reducing times to discharge has enabled the trust to reduce length of stay across the trust by 12% from 2012 to 2017,[8] and meet Clinical Standard 5.

[8] Dr Foster: length of stay data 2011/12 – 2016/17.

Specialist services

In 2014 the trust expanded seven day services into the cardiology, gastroenterology, and respiratory departments to provide emergency weekend access to specialist services and enable effective discharge management. Each specialty was allowed to develop its own models within its own timeframe – the trust considered staff engagement as key to managing the process, so freedom for clinicians to drive the service change was essential. Specialty leads and clinicians designed working rotas that enabled seven day working while ensuring staff hours were safe and reasonable. These services are generally provided from 8am to 8pm at the weekend.

Across specialist services, the trust has increased its use of medical nurse practitioners. This has offered career progression for nurses and reduced pay costs compared to using junior doctors and locum staff.

Discharging and transfers of care

In 2010/11 South Warwickshire became an integrated trust, providing community services across Warwickshire, as well as acute services. It developed the Discharge to Assess (D2A) service model to reduce hospital stay and delayed transfers of care. D2A enables patients to be discharged earlier from acute inpatient wards by co-ordinating care in alternative settings seven days a week.

Several D2A pathways were introduced to speed up discharge and transfer care to a patient's home or community beds:

- **Community emergency response teams (CERTs):** A county-wide community service that provides ongoing support at home, financed by local trusts since 2011. The model provides a community emergency response to patients who may not need acute hospital admission and those discharged from the acute hospital. It has increased capacity to treat patients at home from 25 to 71 patients per week and is provided seven days a week.

- **Discharge transitional unit (DTU):** An internal therapy led and managed unit (ie non-medical) for those who need intensive therapy and 24-hour care that cannot be safely carried out at home. This enables patients to be transferred from acute beds for ongoing assessment and therapy to enhance flow. It has been in operation since 2015.

- **Residential settings:** Patients with complex needs requiring continuing care are transferred to block-commissioned residential or nursing homes. The trust has access to 25 community beds, funded jointly by SWFT and the clinical commissioning group (CCG). Warwickshire County Council procures these on SWFT's behalf on an annual contract, and the trust case-manages them. The medical model is provided by a local GP practice, contracted and procured by SWFT.

Enablers

The trust identified these factors as crucial for implementing seven day hospital services:

Governance: All new initiatives across the trust, including seven day hospital services, are assessed by a decision-making group that includes financial, operational and clinical staff to ensure decisions are practical and effective.

Clinical leadership and staff engagement: Collaboration between clinical and operational leadership teams and a focus on staff engagement made the seven day hospital services programme possible.

Culture: Staff in many departments were initially reluctant to work at weekends and adapt rotas. Encouraging staff to develop their own pathways for seven day hospital services empowered people to develop a service that was both clinically appropriate and beneficial to them. In-house examples of the clinical benefits of seven day hospital services, implemented without major disruption to staff, have helped remove barriers to service change.

IT: Technology solutions have been developed concurrently with changes to pathways to provide real-time information to clinical staff, monitoring of patient flows and capacity, and reporting and tracking capabilities.

Reporting: The trust introduced performance metrics that are reported to the board. These include weekend discharge rates and diagnostic turnaround rates (specifically MRI, CT and ultrasound scanning). Measuring the operational benefits of implementing new service models has helped ensure the support of clinical staff.

Funding: The seven day hospital services model has largely been funded within existing budgets by redesigning services, changing workforce rotas and closing wards. Each department has been given autonomy and budgetary responsibility to deliver seven day working.

Challenges

The trust identified several challenges in implementing seven day hospital services.

Discharging: The trust has been able to discharge patients more effectively into the community through programmes like CERT. However, limited seven day access to social care, residential and nursing homes remains a problem.

Commissioner affordability: The trust believes that local CCGs are unable to afford the additional activity associated with providing a seven day service. Funding for seven day services will be included in CCG allocations from 2020/21.[9]

Staff contracts: Many staff are voluntarily working on seven day services rotas. They have no contractual obligation to work weekends, so a staff retention risk exists if new working patterns do not suit the current workforce.

Financial benefits

Between June 2015 and February 2017, the trust estimates that D2A reduced average length of stay for frail patients from 28 to 17 days by getting patients home and providing out-of-hospital rehabilitation treatment seven days a week. By using capacity more efficiently the trust was able to close two wards at Royal Leamington Spa Rehabilitation Hospital (a reduction of 36 beds), and save about £1 million a year per ward (see Table 3). These savings are attributable to the trust's overall actions, not just its seven day services programme.

Between 2012/13 and 2016/17 the trust saw a 7% drop in non-elective lengths of stay greater than one day.[10] These savings are also attributable to the trust's overall actions, not just its seven day services programme.

[9] NHS England: *CCG allocation FAQs* www.england.nhs.uk/wp-content/uploads/2016/01/faq-allocations.pdf
[10] Dr Foster: *Non-elective length of stay data 2011/12 – 2016/17*.

Table 3: Maximum financial benefits per year

Type/description	£
Quantified:	
Leamington Spa Rehabilitation Hospital – savings from ward closures	2,000,000
Estimated:	
Use of ANPs in place of junior doctors – cost saving[11]	130,000
Non-elective length of stay reductions – cost saving[12]	1,650,000
Total SWFT savings	**3,780,000**

Costs

The trust estimates the cost of expanding the implementation of seven day hospital services at about £940,000 (0.4% of 2016/17 income[13]). Over 90% of this cost relates to staffing, which has a recurrent impact on financial performance. This was driven by recruitment of consultants, medical nurse practitioners and therapists, and where possible upskilling existing staff (such as nurses) to provide services over the weekend.

A **front-door** senior consultant-led A&E and acute physician service was introduced from 8am to 8pm, seven days a week in 2015. This was supported by physios and occupational therapists at a staff cost of about £57,000.

The **respiratory** department recruited additional consultants and the working rota spread over the weekend at a cost of £52,000.

[11] SWFT estimates that advanced nurse practitioners (ANPs) are 35% cheaper than junior doctors. The maximum annual saving is the opportunity cost of employing junior doctors instead of ANPs.
[12] Calculated as the percentage change in bed days per spell between 2014/15 and 2016/17 multiplied by the cost of an excess bed day with minimal treatment costs (£306 per day). Assumed that 25% of cost savings are due to the implementation of seven day hospital services. Gov.uk. *NHS reference costs 2015 to 2016*, www.gov.uk/government/publications/nhs-reference-costs-2015-to-2016
[13] South Warwickshire NHS Foundation Trust: *Annual report and accounts for 2015/16.* This states patient income of £237.1 million. www.swft.nhs.uk/application/files/1215/0046/0507/Annual_Report_and_Accounts_Combined_-__2016-17.pdf

In 2013 the **radiology department** began to implement seven day hospital services for CT, MRI and ultrasound scanning. Because of weekend demand an additional porter was employed at a cost of £11,565, and the purchase of a second CT scanner is planned in 2018. By March 2017 the trust had met Clinical Standard 5.

Pathology services are provided 24/7 by the Coventry and Warwickshire Pathology Service, with most test results returned within one hour. This was at no additional cost to the trust.

Pharmacy and inpatient drugs dispensation are available at weekends and out of hours with additional staff costs of about £74,000. Before 2013 the trust provided a TTO (to take out) service, which meant patients waited for an available pharmacist to receive discharge medication.

Agreement was gained to remove cardiology and gastroenterology consultants from the general internal medicine (GIM) on-call rota in exchange for weekend working. Staff were able to take their 'weekends' midweek on a rotation system. Specialist consultant staff cost about £104,000.

The GIM on-call consultant rostered to weekends and bank holidays agreed to provide ward reviews to all patients whose inpatient care would benefit. This ensured consultant ward rounds would occur on all remaining medical wards between 1.30pm and 4.30pm. Enhancements were negotiated to the on-call payments at minimal cost.

A nurse consultant was appointed to develop advanced practice as part of the workforce strategy. This role supports the growth of advanced practice across multiple specialties including frailty seven days per week, at a cost of £112,000.

While the trust was able to recruit consultants to specialist teams, it struggled with junior doctor staffing and relied on locums to cover the shortfall. In 2011/12 the trust addressed this by introducing medical nurse practitioners (MNPs) – specialist nurses who can request diagnostics and prescribe. In 2015, this team expanded to co-ordinate the 24-hour weekend task management system, an IT solution developed to support timely allocation of clinical tasks around the acute trust. This role will further expand to support weekend consultant reviews on base wards. The total weekend cost is estimated at £241,000.

The trust invested in band 6 physiotherapists and occupational therapists to meet the demands for weekend working and run the **DTU**, costing about £57,000.

Table 4: Costs

Type/description	WTE	Cost (£)[14]
Staff:		
A&E porter	1.00	11,565
Pharmacist support	2.00	74,000
Cardiology consultant	0.16	51,878
Gastroenterology consultant	0.16	51,878
Respiratory consultant	0.16	51,878
Nurse consultant	1	112,000
Care-of-elderly consultant	0.33	103,761
Medical nurse practitioners	2.74	241,129
Medical measurement	0.94	50,223
A&E/AMU clinical fellow	0.50	47,000
Discharge co-ordinator	0.47	28,678
Physiotherapists	0.94	57,356
Occupational therapists	0.94	57,356
Total staff	**19**	**938,702**
Software (fixed cost):		
Lorenzo	n/a	60,000
Total	**n/a**	**998,702**

Non-pay costs

To streamline the pathway, the trust invested £60,000 in Lorenzo and DIGIT patient management systems, which consolidated several discrete systems. The new system allows the trust to better track patients across the pathway as they flow through the hospital, including their use of pathology and prescribing.

[14] This is a best estimate of the costs of providing seven day hospital services. There are benefits to the organisation in addition to providing seven day hospital services.

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